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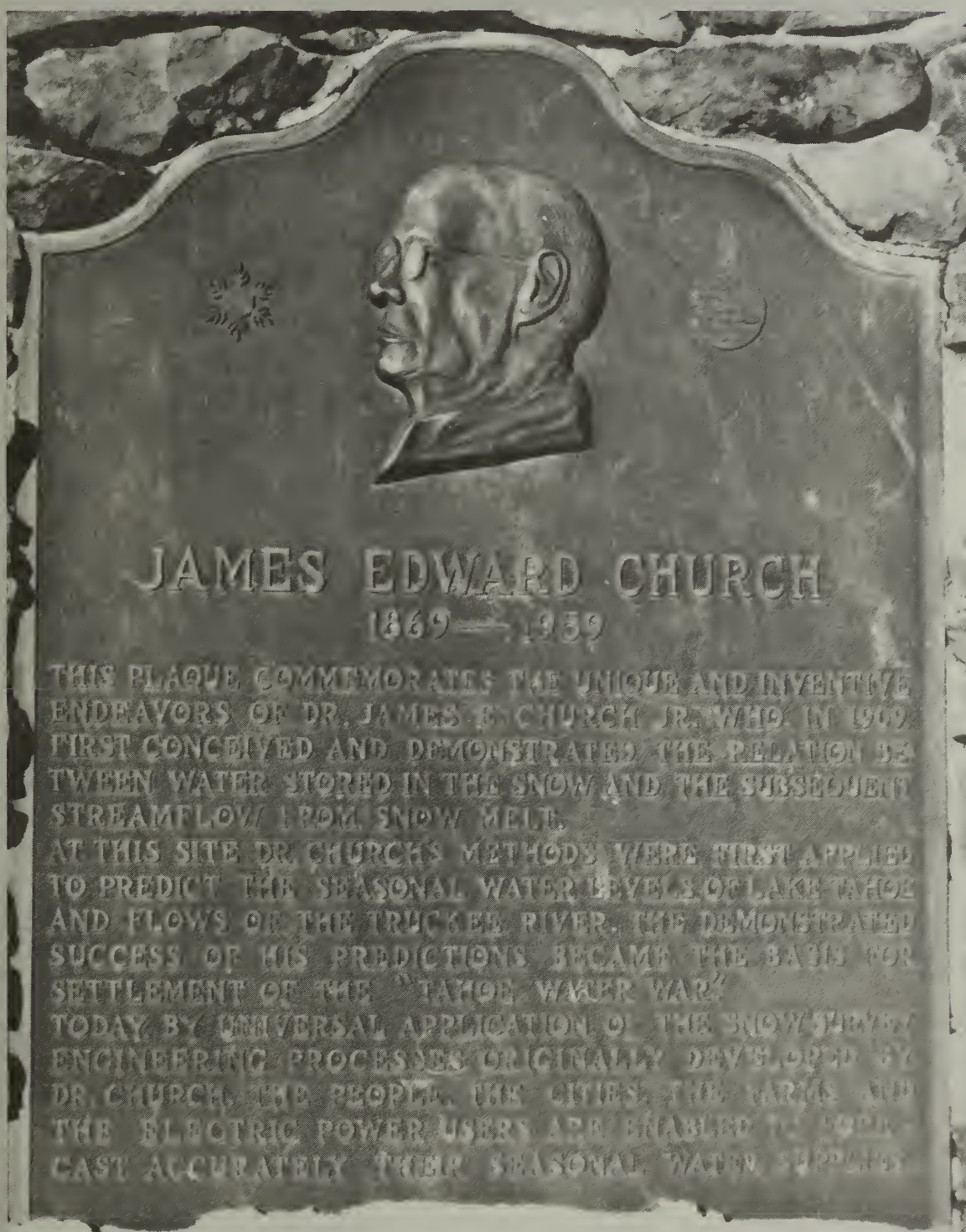
Reno  
Nevada



# Nevada Water Supply Outlook

May 1, 1989

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# Foreword

## How Forecasts Are Made

Most of the annual streamflow in the Western United States originates as snowfall that has accumulated high in the mountains during winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Predictions are based on careful measurements of snow water equivalent at selected index points. Precipitation, temperature, soil moisture and antecedent streamflow data are combined with snowpack data to prepare runoff forecasts. Streamflow forecasts are coordinated by Soil Conservation Service and National Weather Service hydrologists. This report presents a comprehensive picture of water supply outlook conditions for areas dependent upon surface runoff. It includes selected streamflow forecasts, summarized snowpack and precipitation data, reservoir storage data, and narratives describing current conditions.

Snowpack data are obtained by using a combination of manual and automated measurement methods. Manual readings of snow depth and water equivalent are taken at locations called snow courses on a monthly or semi-monthly schedule during the winter. In addition, snow water equivalent, precipitation and temperature are monitored on a daily basis and transmitted via radio telemetry to central data collection facilities. Both monthly and daily data are used to project snowmelt runoff.

An error is associated with each forecast, and this error decreases as the season progresses and more data becomes available. To express the range of error that can be expected, "most probable" forecasts are issued along with a range representing a "reasonable minimum" and a "reasonable maximum". Actual streamflow can be expected to fall within this range in eight out of ten years. Additionally two specific scenarios are provided based on the assumption that subsequent precipitation will be "wet", above average, or "dry", below average.

## For More Information

Copies of Monthly Water Supply Outlook Reports and other reports may be obtained from the states listed below. An annual snow survey data summary is published by the Soil Conservation Service for each of the western states. Historical snow survey data may be obtained at those same offices.

STATE	ADDRESS
Alaska	201 East 9th Ave., Suite 300, Anchorage, AK 99501-3687
Arizona	201 East Indianola Ave., Suite 200, Phoenix, AZ 85012
Colorado	2490 West 26th Ave., Building A, 3rd floor, Denver, CO 80211
Idaho	3244 Elder Street, Room 124, Boise, ID 83705
Montana	10 East Babcock, Room 443, Federal Building, Bozeman, MT 59715
Nevada	1201 Terminal Way, Room 219, Reno, NV 89502
New Mexico	517 Gold Ave. S.W., Room 3301, Albuquerque, NM 87102-3157
Oregon	1220 Southwest 3rd Ave., Room 1640, Portland, OR 97204
Utah	4402 Federal Building, 125 South State Street, Salt Lake City, UT 84147
Washington	W. 920 Riverside, Room 360, Spokane, WA 99201-1080
Wyoming	Federal Building, 100 "B" Street, Room 3124, Casper, WY 82601

In addition to state reports, a Water Supply Outlook for the Western United States is published by the Soil Conservation Service and National Weather Service monthly, January through May. Reports may be obtained from the Soil Conservation Service, West National Technical Center, 511 Northwest Broadway, Room 248, Portland, OR 97209-3489.

Water supply reports published by other agencies:

California — Snow Survey Branch, California Department of Water Resources, P.O. Box 388, Sacramento, CA 95802; British Columbia — The Ministry of Environment, Water Investigations Branch, Parliament Buildings, Victoria, British Columbia, V8V 1X5; Yukon Territory — Department of Indian and Northern Affairs, Northern Operations Branch, 200 Range Road, Whitehorse, Yukon Territory, Y1A3V1; Alberta, Environment Technical Services Division, 9820 106th St., Edmonton, Alberta T5K 2J6.

# **Nevada Water Supply Outlook**

and

## **Federal - State - Private Cooperative Snow Surveys**

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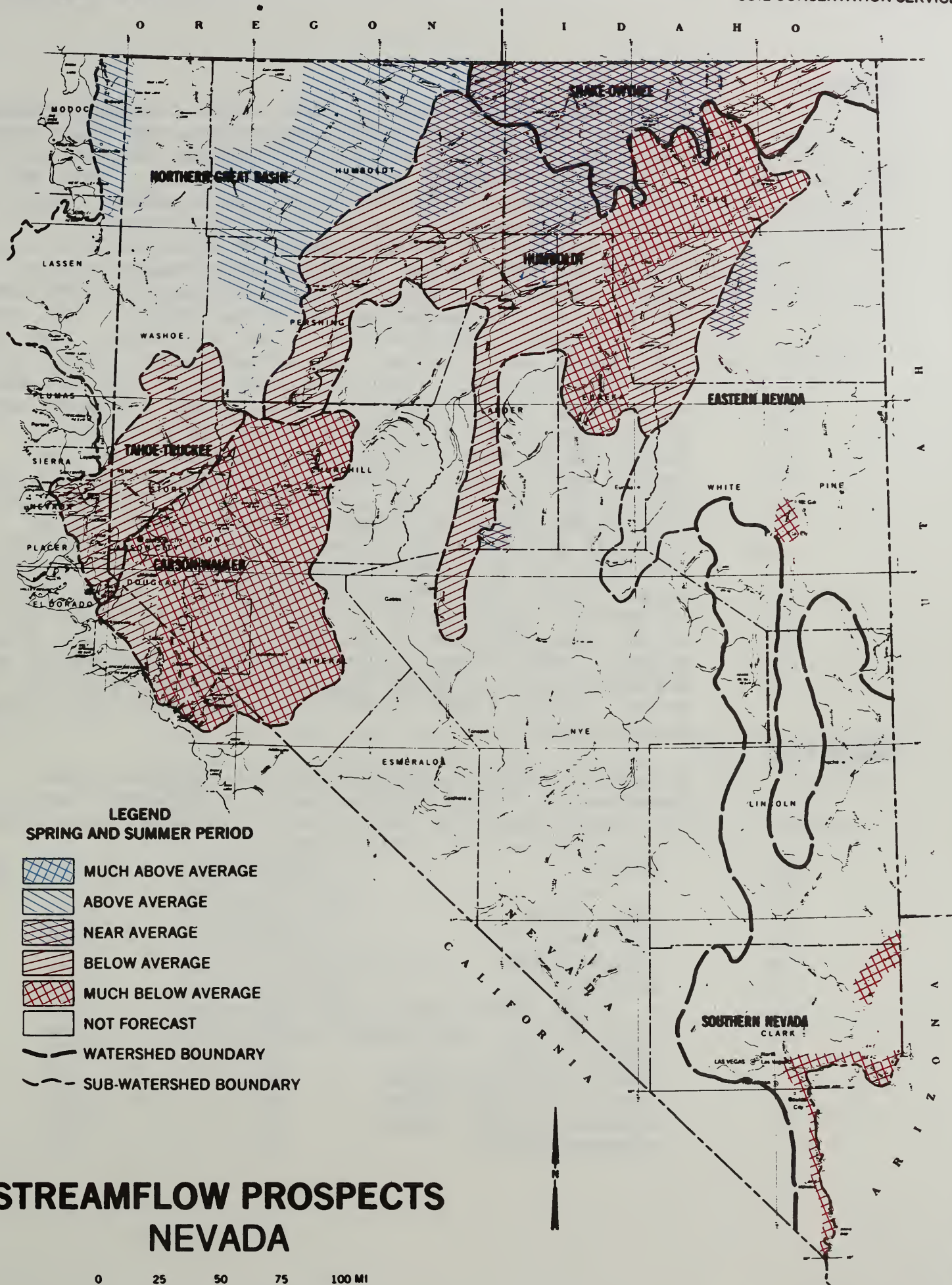
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# GENERAL OUTLOOK

## SUMMARY

SIGNIFICANT REDUCTIONS IN SNOW WATER CONTENT OCCURRED IN APRIL DUE TO HIGH TEMPERATURES AND LOW PRECIPITATION DURING THE MONTH. SNOW WATER CONTENTS ARE BELOW NORMAL TO WELL BELOW NORMAL FOR MOST OF NEVADA. ONLY THE LOWER HUMBOLDT RIVER BASIN AND THE NORTHERN GREAT BASIN ARE REPORTING NEAR NORMAL CONDITIONS. APRIL PRECIPITATION WAS BELOW NORMAL TO WELL BELOW NORMAL THROUGHOUT THE STATE. YEAR-TO-DATE PRECIPITATION (SINCE OCTOBER 1, 1988) IS NEAR NORMAL TO BELOW NORMAL FOR MOST OF THE MAJOR BASINS IN THE STATE. THE LOWER HUMBOLDT RIVER, CLOVER VALLEY AND FRANKLIN RIVER, AND THE OWYHEE RIVER BASINS ALL REPORTED WELL ABOVE NORMAL YEAR-TO-DATE PRECIPITATION TOTALS WHILE THE EASTERN NEVADA AND LOWER COLORADO RIVER BASINS REPORTED WELL BELOW NORMAL YEAR-TO-DATE PRECIPITATION TOTALS. RESERVOIR STORAGE INCREASED SIGNIFICANTLY IN MANY BASINS DURING APRIL, HOWEVER, STORAGE IN MOST OF THE RESERVOIRS REMAINS BELOW TO WELL BELOW NORMAL. ONLY THE OWYHEE RIVER AND LOWER COLORADO RIVER BASINS REPORTED ABOVE NORMAL TO WELL ABOVE NORMAL STORAGE. THE SEVEN MAJOR RESERVOIRS SUPPLYING WATER FOR NORTHERN NEVADA WATER USERS WERE 53% OF AVERAGE ON THE LAST DAY OF APRIL. STREAMFLOWS IN MANY OF THE MAJOR BASINS IN NEVADA ARE EXPECTED TO BE BELOW NORMAL TO WELL BELOW NORMAL. NEAR NORMAL TO ABOVE NORMAL STREAMFLOWS ARE EXPECTED IN THE CLOVER VALLEY AND FRANKLIN RIVER, SNAKE RIVER, OWYHEE RIVER, LOWER HUMBOLDT RIVER AND NORTHERN GREAT BASINS.

## SNOWPACK

Low precipitation amounts and high temperatures combined to significantly reduce snowpacks throughout the state. All the major basins reported near normal to well below snow water content.

BASIN	% OF AVERAGE	% OF LAST YEAR
-----	-----	-----
LAKE TAHOE.....	58%	986%
TRUCKEE RIVER.....	73%	360%
CARSON RIVER.....	54%	291%
WALKER RIVER.....	41%	161%
N. GREAT BASIN.....	93%	222%
SNAKE RIVER.....	82%	120%
OWYHEE RIVER.....	76%	227%
UPPER HUMBOLDT RIVER.....	22%	78%
LOWER HUMBOLDT RIVER.....	95%	262%
HUMBOLDT RIVER (TOTAL)....	67%	201%
EASTERN NEVADA.....	14%	18%



## PRECIPITATION

Precipitation during April was below to well below normal for the entire state. Total precipitation since October 1, 1988 is near normal to below normal for most of the major basins in the state. The Lower Humboldt River, Clover Valley & Franklin River and the Owyhee River Basins report well above normal yearly totals while the Eastern Nevada and Lower Colorado River Basins have had well below normal precipitation since the beginning of the water year.

BASIN	APRIL % OF AVERAGE	YEAR-TO-DATE % OF AVERAGE
LAKE TAHOE.....	69%	97%
TRUCKEE RIVER.....	56%	86%
CARSON RIVER.....	52%	82%
WALKER RIVER.....	35%	82%
N. GREAT BASIN.....	90%	96%
UPPER HUMBOLDT RIVER.....	23%	87%
LOWER HUMBOLDT RIVER.....	56%	124%
CLOVER VALLEY & FRANKLIN RIVER.....	86%	125%
SNAKE RIVER.....	57%	95%
OWYHEE RIVER.....	50%	114%
EASTERN NEVADA.....	3%	66%
LOWER COLORADO RIVER.....	11%	48%

## RESERVOIRS

Reservoir storage was below normal to well below normal in most of the basins on the last day of April. The Owyhee River and Lower Colorado River Basins reported above normal to well above normal storage figures.

BASIN	% CAPACITY	% OF AVERAGE
LAKE TAHOE.....	21%	34%
TRUCKEE RIVER.....	51%	82%
CARSON RIVER.....	58%	75%
WALKER RIVER.....	29%	40%
LOWER HUMBOLDT RIVER.....	29%	44%
OWYHEE RIVER.....	75%	155%
LOWER COLORADO RIVER.....	86%	115%
SEVEN MAJOR RESERVOIRS....	35%	53%

## STREAMFLOW

Streamflow forecasts indicate below normal to well below normal streamflows can be expected in most of the basins in the state. Above normal streamflows are expected in the Northern Great Basin. Near normal streamflows are forecast in the Owyhee River Basin, Clover Valley & Franklin River Basin and portions of the Lower Humboldt River Basin.

BASIN	% OF AVERAGE
-----	-----
TRUCKEE RIVER.....	75%- 88%
CARSON RIVER.....	63%- 76%
WALKER RIVER.....	60%- 65%
N. GREAT BASIN.....	111%-117%
UPPER HUMBOLDT RIVER.....	56%- 75%
LOWER HUMBOLDT RIVER.....	68%-105%
CLOVER VALLEY & FRANKLIN RIVER.....	99%
SNAKE RIVER.....	81%
OWYHEE RIVER.....	101%-110%
EASTERN NEVADA.....	56%- 90%
LOWER COLORADO RIVER.....	45%- 80%

## **YOU HAVE BEEN HEARD . . .**

**A recent evaluation of the Snow Survey and Water Supply Forecasting Program interviewed 200 users of the forecasts. We learned that:**

- Users who got their information by accessing our computer were very satisfied;**
- Users who depended on the monthly Water Supply Outlook Report needed the information much earlier in the month; and**
- The reports contained more information than many users needed.**

**In summary, we are producing a report that is not doing the job for most users. And we are spending a lot of money on the report.**

**The state-wide WATER SUPPLY OUTLOOK REPORT will be discontinued. We are proposing three actions for the next water year to better meet your needs:**

**FIRST, the users' direct access of forecasts by computer will be improved. We will provide better instructions and self-training materials. Also, District Conservationists who have computers will be encouraged to access forecasts and distribute local reports to those users who do not have computer facilities.**

**SECOND, the SCS state office will prepare individual forecast reports for the major river basins in the state. They will be the same as the reports available on the computer. Users who request it will be on a mailing list to receive one or more of the reports. They will be printed and mailed within a day or two after the basin forecast is completed and available on the computer.**

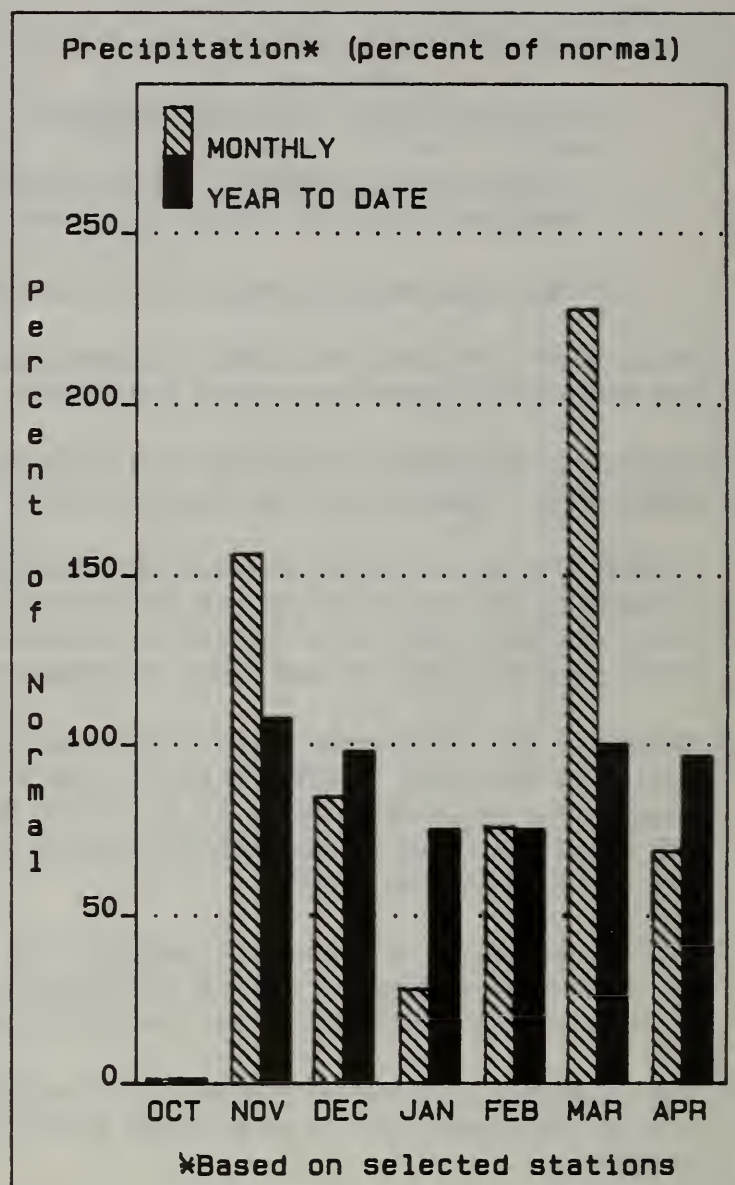
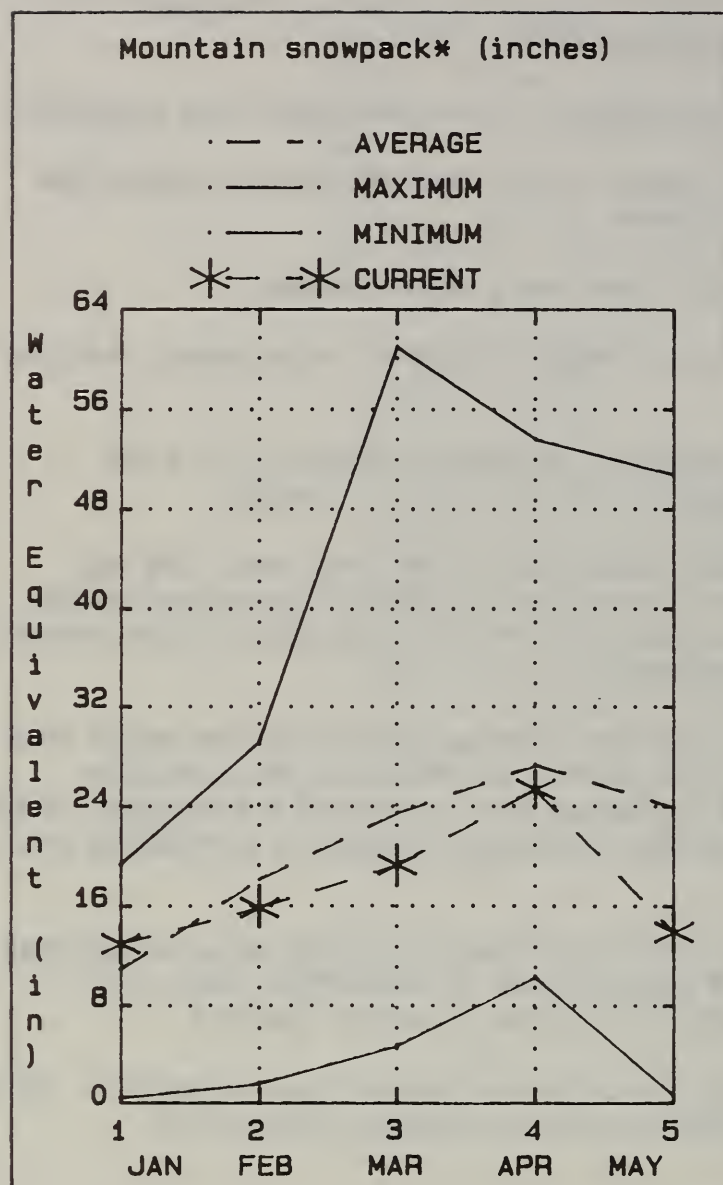
**THIRD, for users who are interested in the forecasts for their historical value rather than for decision-making, an annual summary will be provided. A West-Wide Report will continue to be available, published jointly with the National Weather Service.**

**This summer and fall will be spent developing the details of these new procedures. You will be informed prior to next water year's reports, and new mailing lists will be prepared.**

**Please call us or write if you have any questions.**



## LAKE TAHOE BASIN



Snow water content in the Lake Tahoe Basin decreased to well below average during April. The basin currently has 58% of the May 1 average and 986% of the water content present last year. April precipitation for the Lake Tahoe Basin was 69% of average and 138% of last year. Precipitation since October 1, 1988 is 97% of the average and 199% of last year. The elevation at Lake Tahoe on the last day of April was 6224.27 or 34% of average. Storage on that day was 154,200 acre feet. The forecast for the rise in Lake Tahoe is 1.1 feet or 73% of normal from April-High (assuming the gates are closed).

LAKE TAHOE BASIN

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVG.)	WET SUBS. (1000AF)	DRY SUBS. (1000AF)	REAS. MAX. (1000AF)	REAS. MIN. (1000AF)	25 YR. AVG. (1000AF)
LAKE TAHOE RISE (assume gates closed)	APR-HIG	1.1	73			1.4	0.8	1.5

RESERVOIR STORAGE

(1000AF)

WATERSHED SNOWPACK ANALYSIS

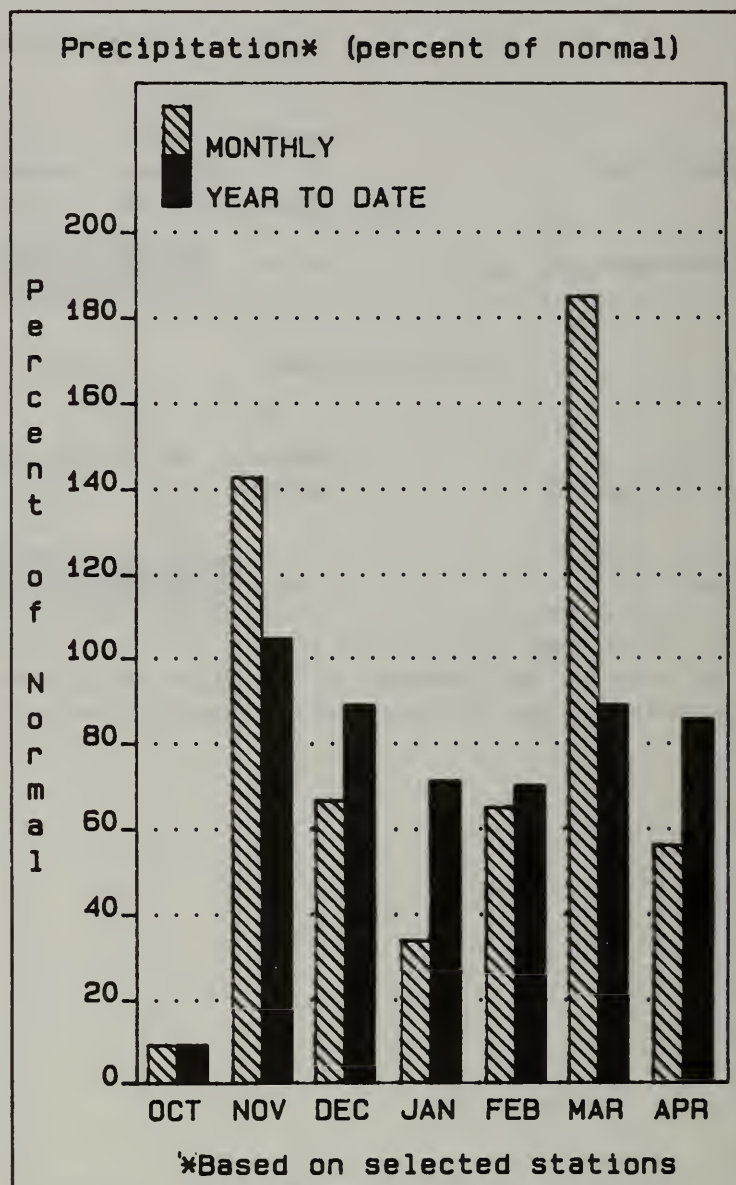
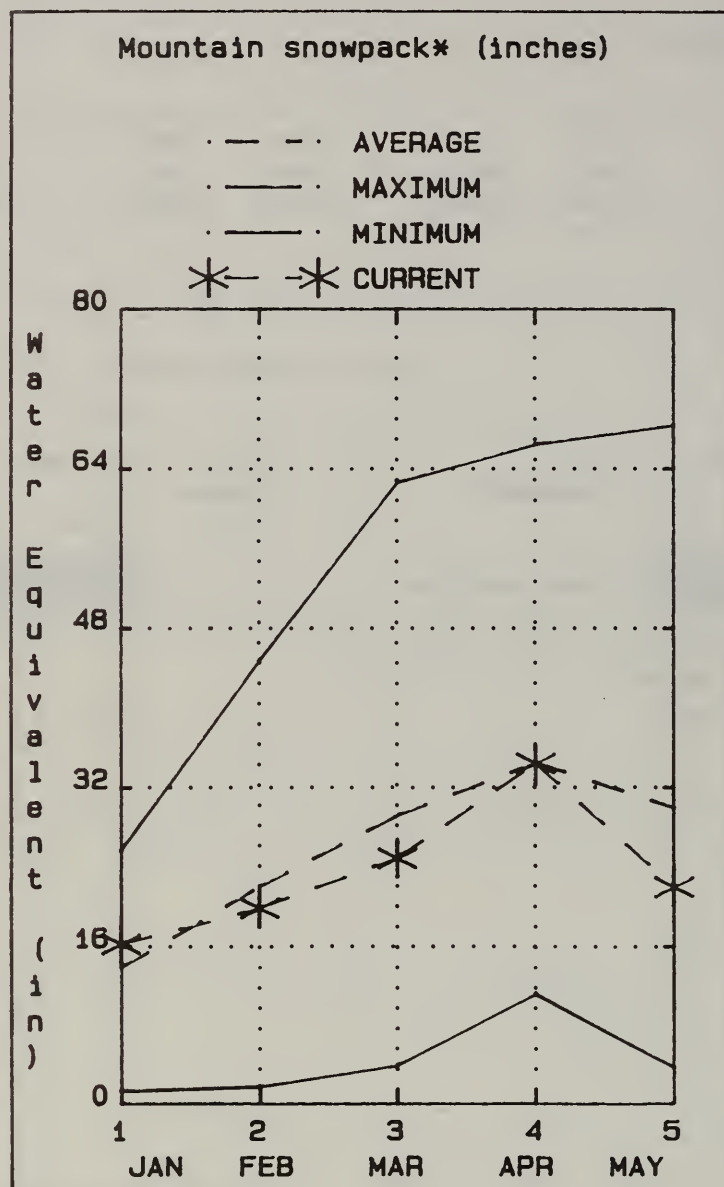
RESERVOIR	USEABLE CAPACITY	** USEABLE STORAGE **			WATERSHED	NO. COURSES AVG'D	THIS YEAR AS % OF LAST YR. AVERAGE	
		THIS YEAR	LAST YEAR	AVG.				
LAKE TAHOE	744.6	154.2	206.5	451.4	LAKE TAHOE RISE	11	986	58

WET SUBS. and DRY SUBS. represent 130 and 70 percent subsequent precipitation events respectively.

REAS. MAX. and REAS. MIN. forecasts are for 10% and 90% exceedance levels.

(2) - Corrected for upstream diversions or changes in reservoir storage.

## TRUCKEE RIVER BASIN



Snow water content in the Truckee River Basin decreased to below normal during April. The basin currently has 73% of the May 1 average and 360% of the water content present last year. April precipitation for the Truckee River Basin was 56% of average and 95% of last year. Precipitation since October 1, 1988 is 86% of average and 202% of last year. Reservoir storage on the last day of April was 82% of average. Total storage for Boca, Prosser and Stampede reservoirs was 150,145 acre feet. Streamflows in the Truckee River Basin are expected to be below average. The Truckee River at Farad is expected to flow at 88% of average or 250,000 acre feet during the April-July forecast period.



TRUCKEE RIVER BASIN

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVG.)	WET SUBS. (1000AF)	DRY SUBS. (1000AF)	REAS. MAX. (1000AF)	REAS. MIN. (1000AF)	25 YR. AVG. (1000AF)
TRUCKEE RIVER at Farad 2	APR-JUL	250	88			315	187	285
LITTLE TRUCKEE RIVER above Boca 2	APR-JUL	80	87			98	62	92
STEAMBOAT CREEK at Steamboat 2	APR-JUL	5.3	75			6.6	4.0	7.1
GALENA CREEK nr Steamboat, Nv	APR-JUL	3.6	80			4.4	2.8	4.5
PYRAMID LAKE RISE (LOW 2/1/87)	LOW-HIG	-1.1						1.2

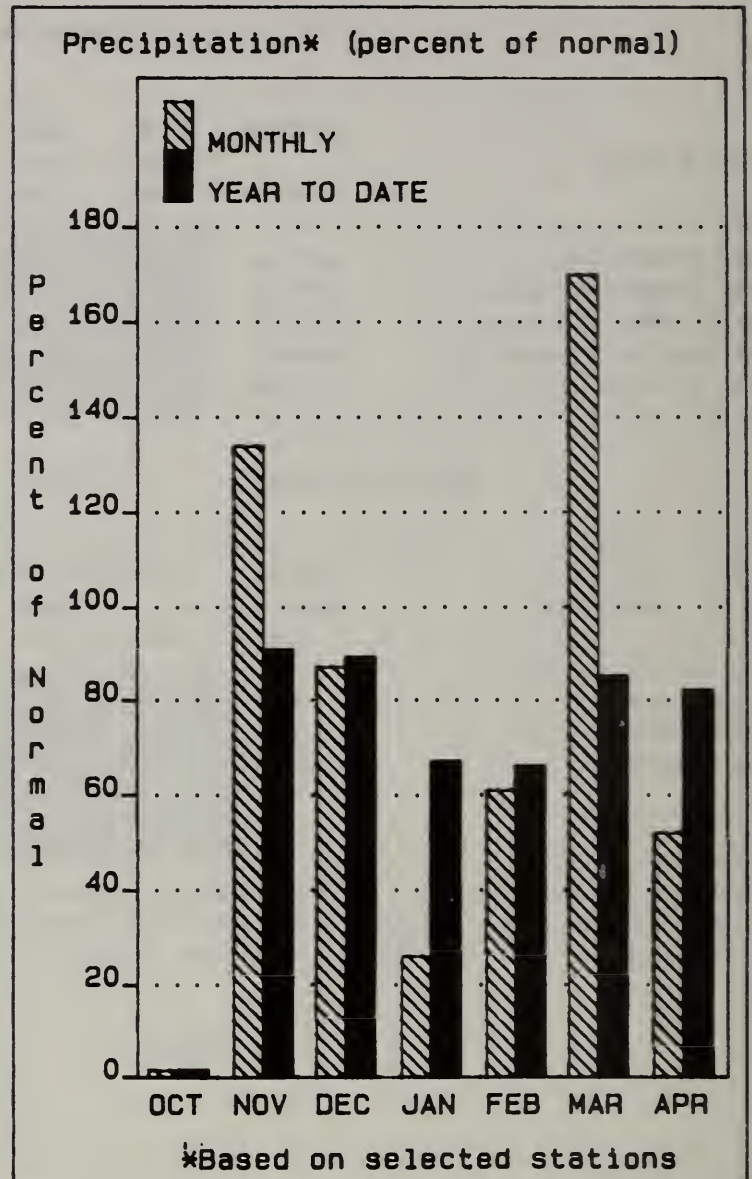
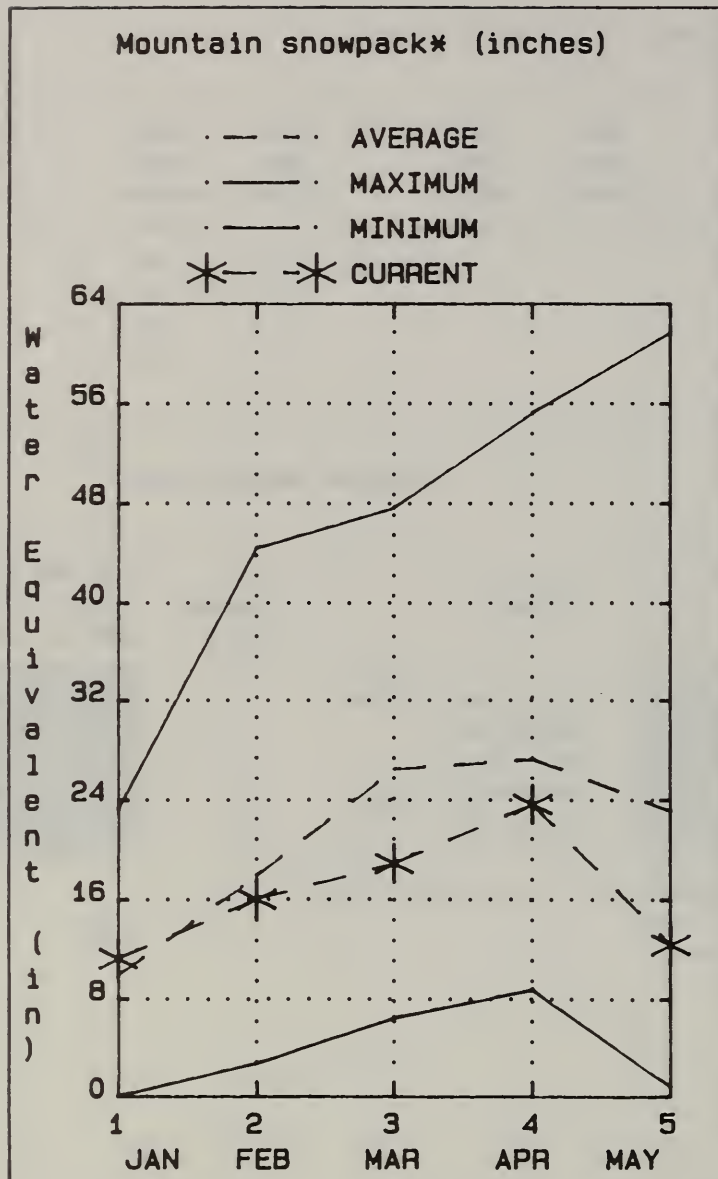
RESERVOIR STORAGE (1000AF)					WATERSHED SNOWPACK ANALYSIS			
RESERVOIR	USEABLE CAPACITY	** USEABLE STORAGE **			WATERSHED	NO. COURSES AVG'D	THIS YEAR AS % OF LAST YR. AVERAGE	
		THIS YEAR	LAST YEAR	AVG.				
BOCA RESERVOIR	40.9	37.0	12.2	29.5	LITTLE TRUCKEE RIVER	3	268	69
PROSSER RESERVOIR	28.6	17.2	10.1	13.2	SAGEHEN CREEK	5	353	72
STAMPEDE RESERVOIR	226.5	96.0	83.6	139.5	GALENA CREEK	2	251	80
					STEAMBOAT DRAINAGE	2	251	80
					PYRAMID LAKE	23	443	67

WET SUBS. and DRY SUBS. represent 130 and 70 percent subsequent precipitation events respectively.

REAS. MAX. and REAS. MIN. forecasts are for 10% and 90% exceedance levels.

(2) - Corrected for upstream diversions or changes in reservoir storage.

# CARSON RIVER BASIN



Snow water content in the Carson River Basin decreased during April to well below average. The basin currently has 54% of the May 1 average and 291% of the water content present last year. April precipitation for the Carson River Basin was 52% of average and 67% of last year. Precipitation since October 1, 1988 is 82% of average and 156% of last year. Reservoir storage on the last day of April was 75% of average. Total storage for Lahontan Reservoir was 172,594 acre feet. Streamflows in the Carson River Basin are expected to be below normal to well below normal. The Carson River near Carson City is expected to flow at 66% of average or 130,000 acre feet during the April-July forecast period, with a peak flow of about 1250 cfs. Peak flow for the East Fork of the Carson River near Gardnerville is expected to be about 1300 cfs. Low flow (200 cfs) should occur on or about May 28, 1989.

# CARSON RIVER BASIN

## STREAMFLOW FORECASTS

FORECAST POINT	FORECAST	MOST	MOST	WET	DRY	REAS.	REAS.	25 YR.
		PROBABLE	PROBABLE	SUBS.	SUBS.	MAX.	MIN.	AVG.
	PERIOD	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	(1000AF)	(1000AF)	(1000AF)
EF CARSON RIVER nr Gardnerville, Nv	APR-JUL	150	76	154	146	176	124	198
WF CARSON RIVER at Woodfords, Ca	APR-JUL	40	71	24	41			57
CARSON RIVER near Carson City, Nv	APR-JUL	130	66			166	94	198
CARSON RIVER near Ft. Churchill, Nv	APR-JUL	115	63			164	58	182

## RESERVOIR STORAGE

(1000AF)

## WATERSHED SNOWPACK ANALYSIS

RESERVOIR	USEABLE	** USEABLE STORAGE **			WATERSHED	NO.	THIS YEAR AS % OF	
	CAPACITY	THIS	LAST	AVG.		COURSES	-----	
		YEAR	YEAR	AVG.		AVG'D	LAST YR.	AVERAGE
LAHONTAN RESERVOIR	295.1	172.6	177.9	229.0	E. CARSON RIVER	4	291	54
					W. CARSON RIVER	4	299	60
					CARSON Rv. at Carson City	4	354	60
					CARSON Rv. at Ft. Churchi	4	354	60

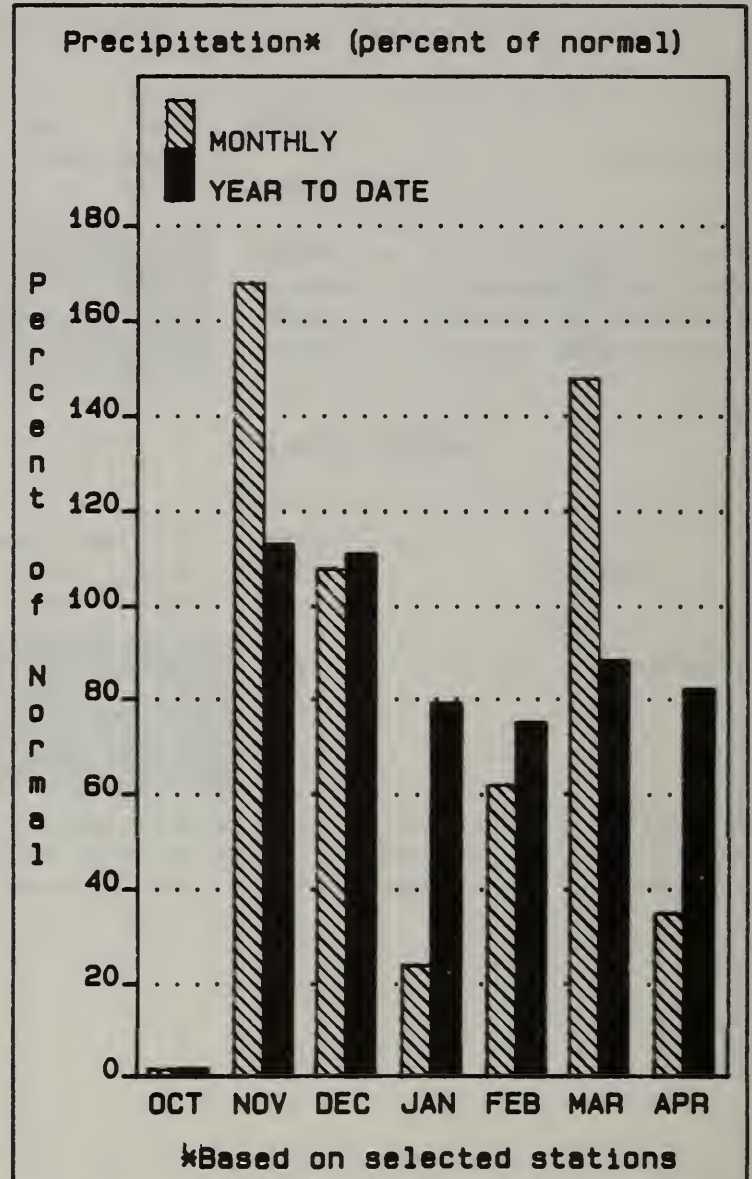
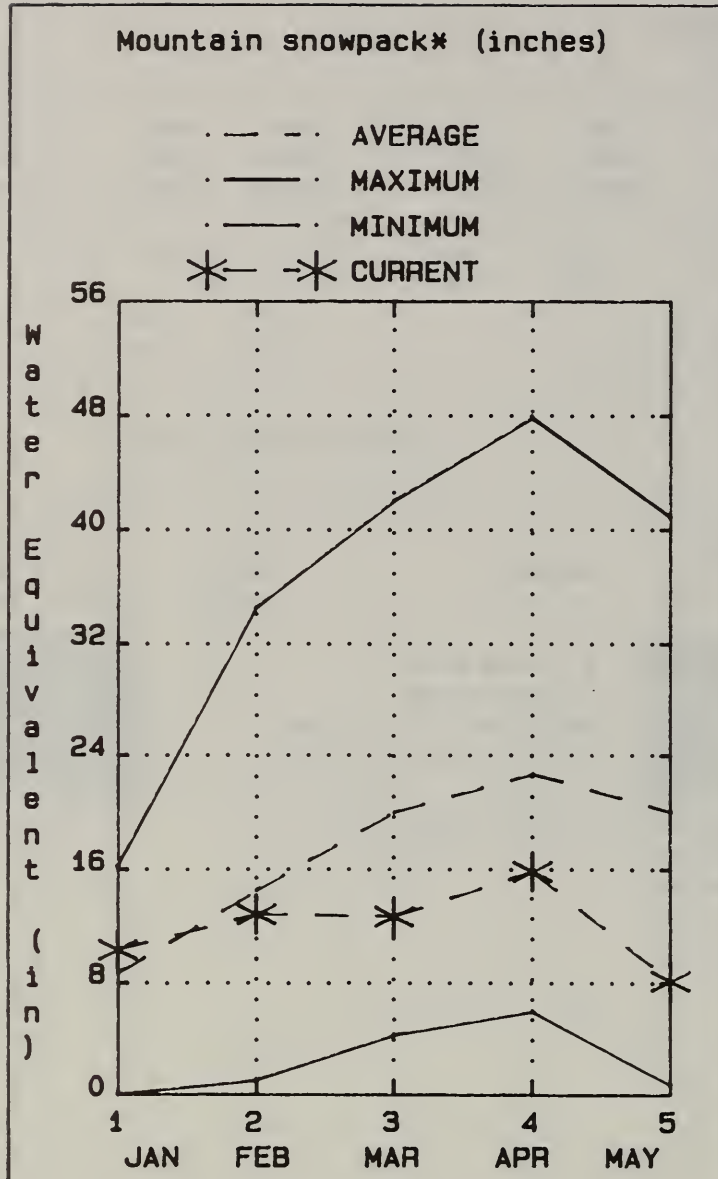
WET SUBS. and DRY SUBS. represent 130 and 70 percent subsequent precipitation events respectively.

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(2) - Corrected for upstream diversions or changes in reservoir storage.



## WALKER RIVER BASIN



Snow water content in the Walker River Basin decreased during April to well below average. The basin currently has 41% of the May 1 average and 161% of the water content present last year. April precipitation for the Walker River Basin was 35% of average and 60% of last year. Precipitation since October 1, 1988 is 82% of average and 144% of last year. Reservoir storage on the last day of April was 40% of average. Total storage for Bridgeport and Topaz reservoirs was 29,671 acre feet. Streamflows in the Walker River Basin are expected to be well below average. The West Walker River near Coleville is expected to flow at 65% of average or 100,000 acre feet during the April-July forecast period, with a peak flow of about 1150 cfs.

# WALKER RIVER BASIN

## STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVG.)	WET SUBS. (1000AF)	DRY SUBS. (1000AF)	REAS. MAX. (1000AF)	REAS. MIN. (1000AF)	25 YR. AVG. (1000AF)
EAST WALKER RIVER nr Bridgeport 2	APR-AUG	46	60			72	19.9	77
WEST WALKER RIVER near Coleville, Ca	APR-JUL	100	65	105	95	120	80	155
WALKER LAKE RISE (LOW 2/1/87)	LOW-HIG	-1.5						0.0

## RESERVOIR STORAGE

(1000AF)

## WATERSHED SNOWPACK ANALYSIS

RESERVOIR	USEABLE CAPACITY	** USEABLE STORAGE **			WATERSHED	NO. COURSES	THIS YEAR AS % OF	
		THIS YEAR	LAST YEAR	AVG.		AVG'D	LAST YR.	AVERAGE
BRIDGEPORT RESERVOIR	42.5	12.8	15.6	30.5	E. WALKER Rv. nr Bridgepo	3	161	41
TOPAZ RESERVOIR	59.4	16.9	18.0	43.8	W. WALKER Rv. nr Colevill	4	161	41
					WALKER LAKE RISE	4	161	41

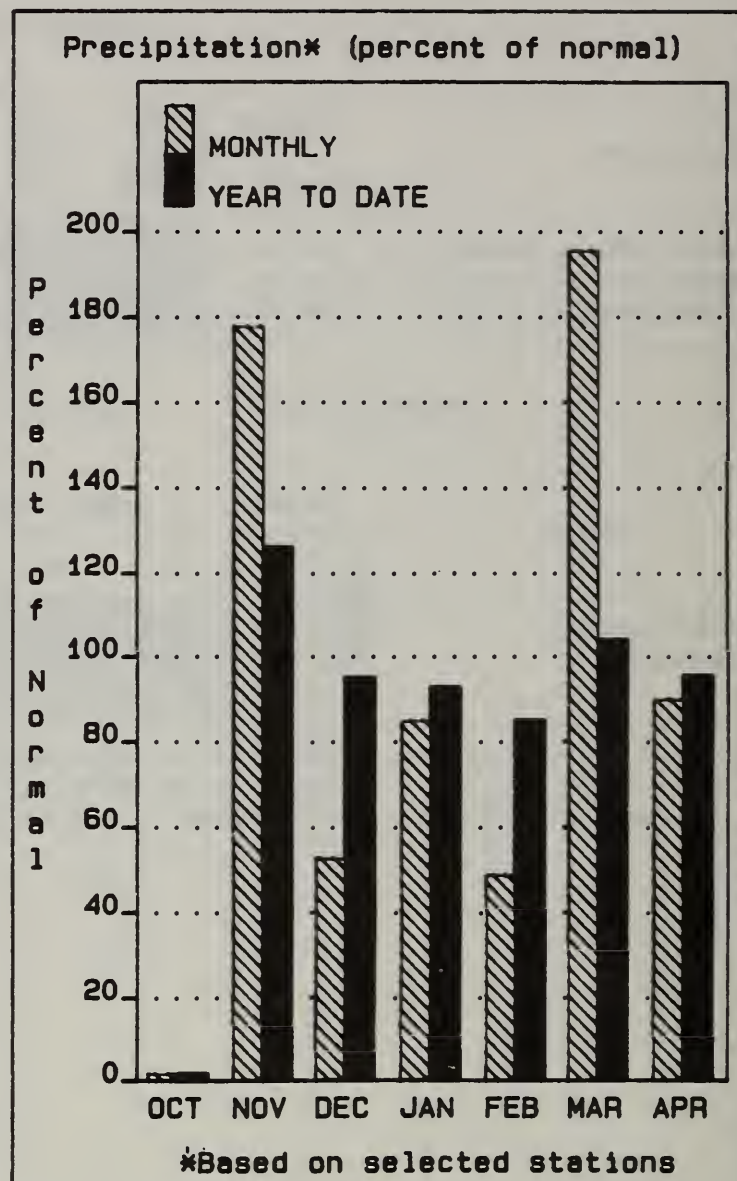
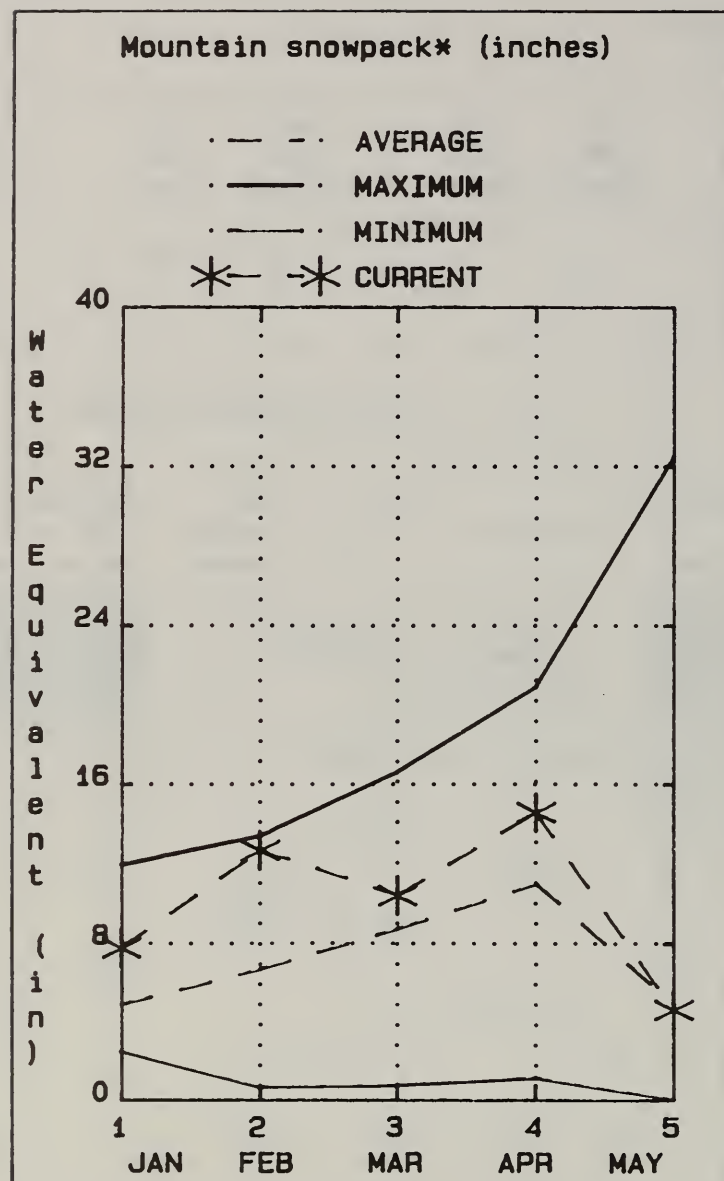
WET SUBS. and DRY SUBS. represent 130 and 70 percent subsequent precipitation events respectively.

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(2) - Corrected for upstream diversions or changes in reservoir storage.



## NORTHERN GREAT BASIN



Snow water content in the Northern Great Basin, based on SNOTEL (SNOW TELemetry) readings, decreased to near average during April. The basin currently has 93% of the May 1 average and 222% of the water content present last year. April precipitation for the Northern Great Basin was 90% of average and 60% of last year. Precipitation since October 1, 1988 is 96% of average and 142% of last year. Streamflows in the Northern Great Basin are expected to be above normal. Bidwell Creek near Fort Bidwell is expected to flow at 113% of normal or 13,500 acre feet during the April-July forecast period. The Quinn River near McDermitt is forecast at 113% of average or 18,000 acre feet during the April-July forecast period.



NORTHERN GREAT BASIN

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST	MOST	MOST	WET	DRY	REAS.	REAS.	25 YR.
	PERIOD	PROBABLE (1000AF)	PROBABLE (% AVG.)	SUBS. (1000AF)	SUBS. (1000AF)	MAX. (1000AF)	MIN. (1000AF)	AVG. (1000AF)
BIDWELL CREEK nr Fort Bidwell	APR-JUL	13.5	113			17.3	9.7	12.0
DEEP CREEK nr Cedarville, Ca	APR-JUL	4.2	117			5.4	3.0	3.6
EAGLE CREEK nr Eagleville, Ca	APR-JUL	4.9	114			6.3	3.5	4.3
MILL CREEK nr Cedarville, Ca	APR-JUL	4.8	117			6.1	3.5	4.1
QUINN RIVER nr McDermitt, Nv	APR-JUL	18.0	113			25	11.4	16.0
E. FORK QUINN RIVER nr McDermitt	APR-JUL	12.0	115			16.3	7.7	10.4
MCDERMITT CREEK nr McDermitt	APR-JUL	16.0	111			22	10.1	14.4

RESERVOIR STORAGE

(1000AF)

WATERSHED SNOWPACK ANALYSIS

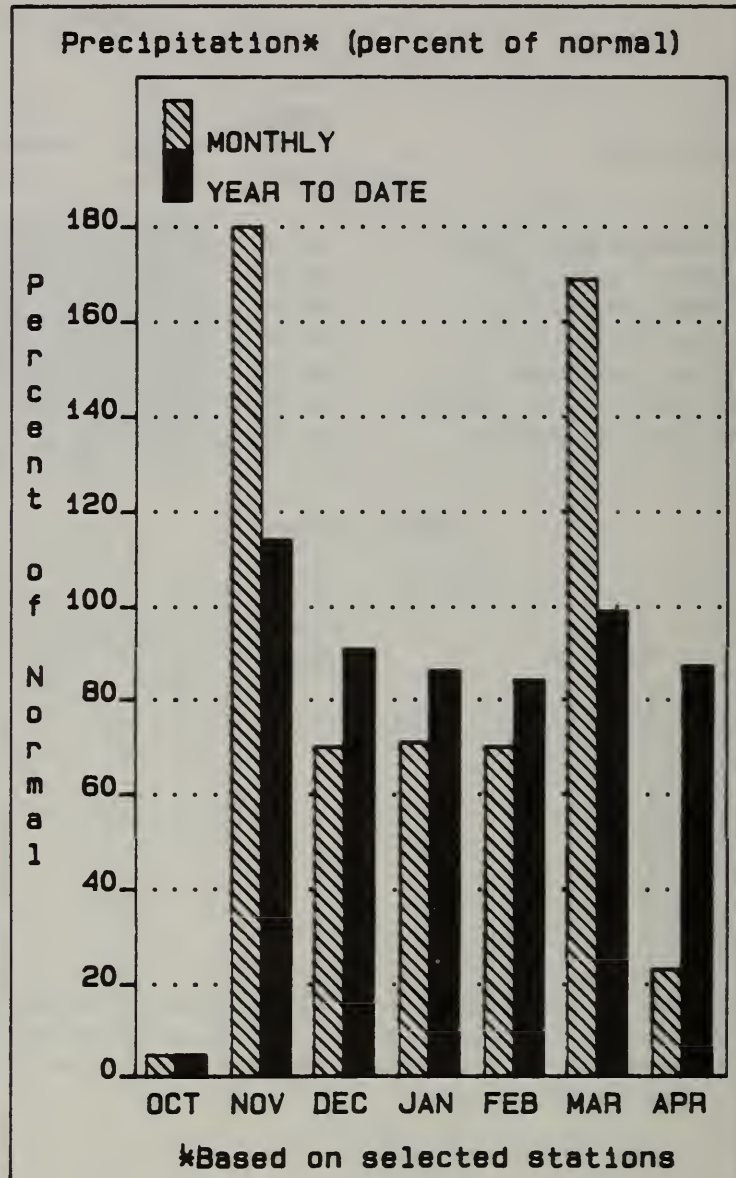
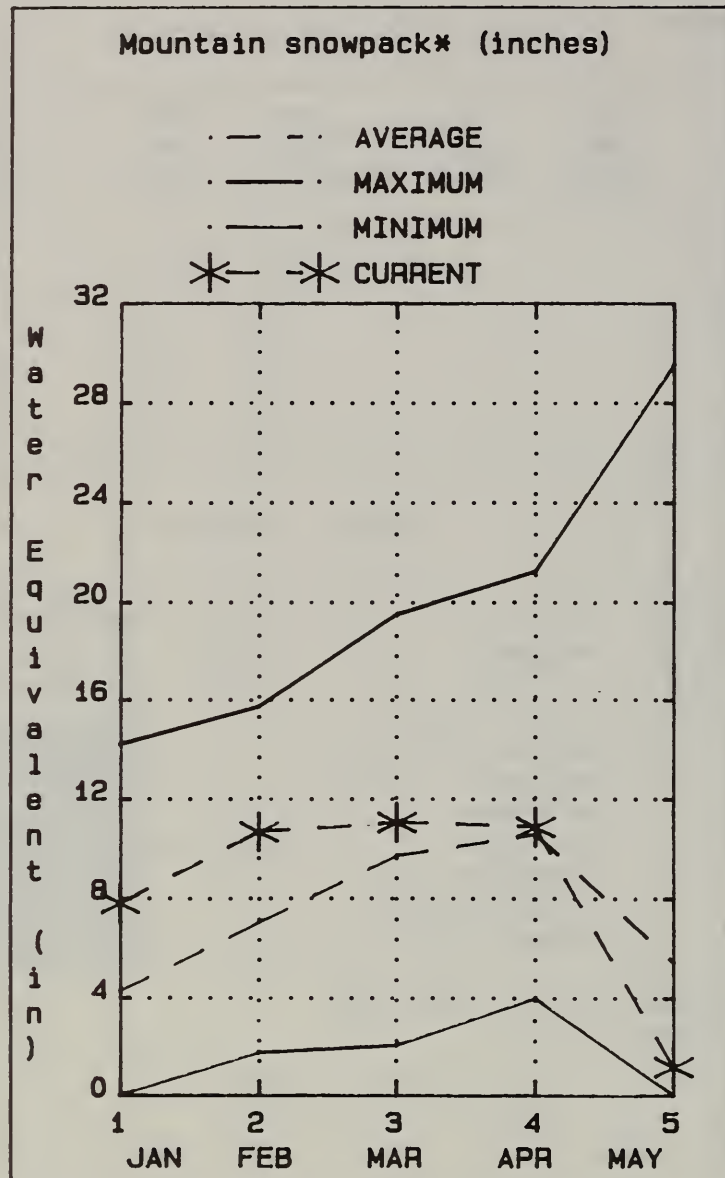
RESERVOIR	USEABLE	** USEABLE STORAGE **			WATERSHED	NO.	THIS YEAR AS % OF	
	CAPACITY	THIS	LAST	AVG.		COURSES	LAST YR.	AVERAGE
		YEAR	YEAR			AVG'D		
					BIDWELL	0	0	0
					MILL CREEK	0	0	0
					DEEP CREEK	0	0	0
					EAGLE CREEK	0	0	0
					QUINN RIVER	0	0	0
					E. FORK QUINN	0	0	0
					MCDERMITT CREEK	0	0	0

WET SUBS. and DRY SUBS. represent 130 and 70 percent subsequent precipitation events respectively.

REAS. MAX. and REAS. MIN. forecasts are for 10% and 90% exceedance levels.

(2) - Corrected for upstream diversions or changes in reservoir storage.

## UPPER HUMBOLDT RIVER BASIN



Snow water content in the Upper Humboldt River Basin dropped significantly during April to well below normal. The basin currently has 22% of the May 1 average and 78% of the water content present last year. April precipitation for the Upper Humboldt River Basin was 23% of average and 39% of last year. Precipitation since October 1, 1988 is 87% of average and 122% of last year. Streamflows in the Upper Humboldt River Basin are expected to be below normal to well below normal. The Humboldt River at Palisades is expected to flow at 63% of average or 130,000 acre feet during the May-July forecast period. The flow of the Humboldt River at the Palisades gage during March-April was 162,580 acre feet.

# UPPER HUMBOLDT RIVER BASIN

## STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVG.)	WET SUBS. (1000AF)	DRY SUBS. (1000AF)	REAS. MAX. (1000AF)	REAS. MIN. (1000AF)	25 YR. AVG. (1000AF)
MARY'S RIVER nr Deeth	APR-JUL	34	82			47	15.7	42
	MAY-JUL	20	65			31	11.0	31
LAMOILLE CREEK nr Lamoille	APR-JUL	26	88	27	24	37	15.4	30
	MAY-JUL	20	71	21	18.3	30	9.9	28
NF HUMBOLDT RIVER at Devils Gate	APR-JUL	30	77	35	25	46	16.3	39
	MAY-JUL	15.0	59	18.3	10.4	25	6.9	25
HUMBOLDT RIVER nr Elko	APR-JUL	137	89	139	132	191	66	154
	MAY-JUL	66	56	72	41	128	27	119
S FORK HUMBOLDT RIVER at Dixie	APR-JUL	71	81	82	60	102	37	88
	MAY-JUL	59	75	68	50	93	31	79
HUMBOLDT RIVER near Carlin	APR-JUL	200	84	215	188	305	88	238
	MAY-JUL	120	64	128	84	169	46	189
HUMBOLDT RIVER at Palisades	APR-JUL	215	80	280	161	445	97	269
	MAY-JUL	130	63	182	78	220	45	208

## RESERVOIR STORAGE

(1000AF)

## WATERSHED SNOWPACK ANALYSIS

RESERVOIR	USEABLE CAPACITY	** USEABLE STORAGE **			WATERSHED	NO. COURSES	THIS YEAR AS % OF	
		THIS YEAR	LAST YEAR	AVG.		AVG'D	LAST YR.	AVERAGE
					LAMOILLE CREEK	0	0	0
					S. FORK HUMBOLDT	3	78	22
					MARY'S RIVER	0	0	0
					N. FORK HUMBOLDT	0	0	0
					HUMBOLDT Rv. at Palisades	3	78	22
					HUMBOLDT RIVER at Comus	3	78	22

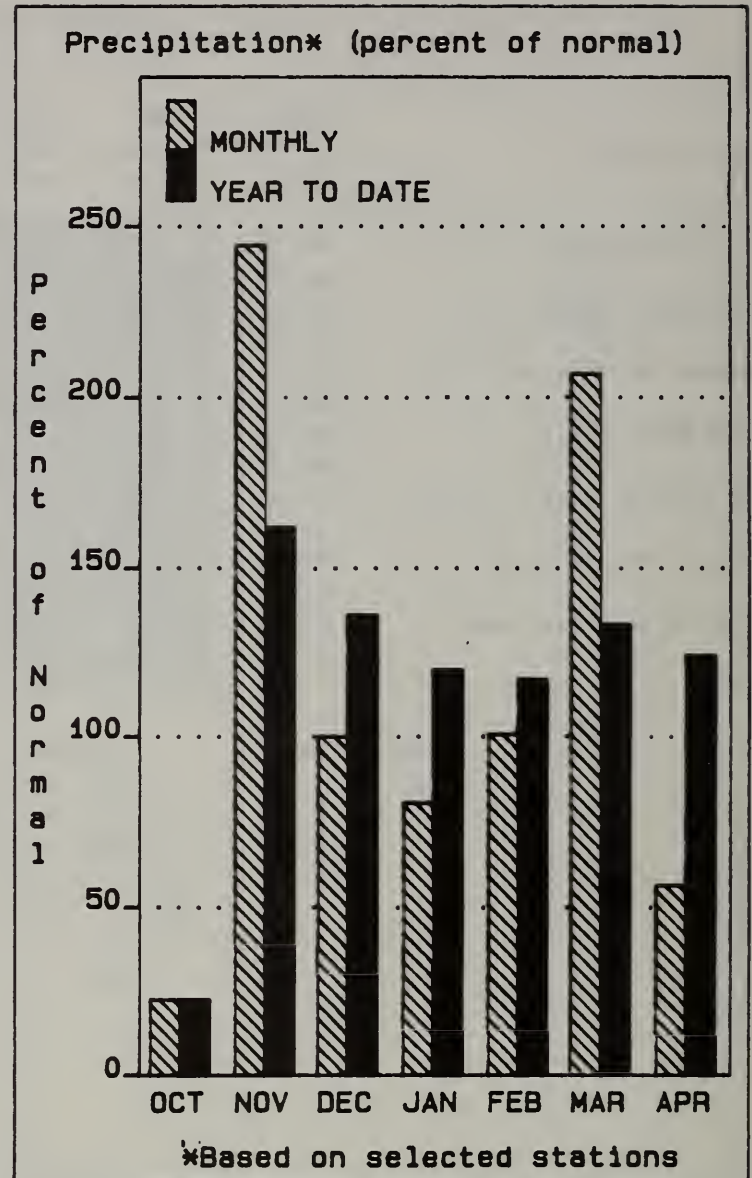
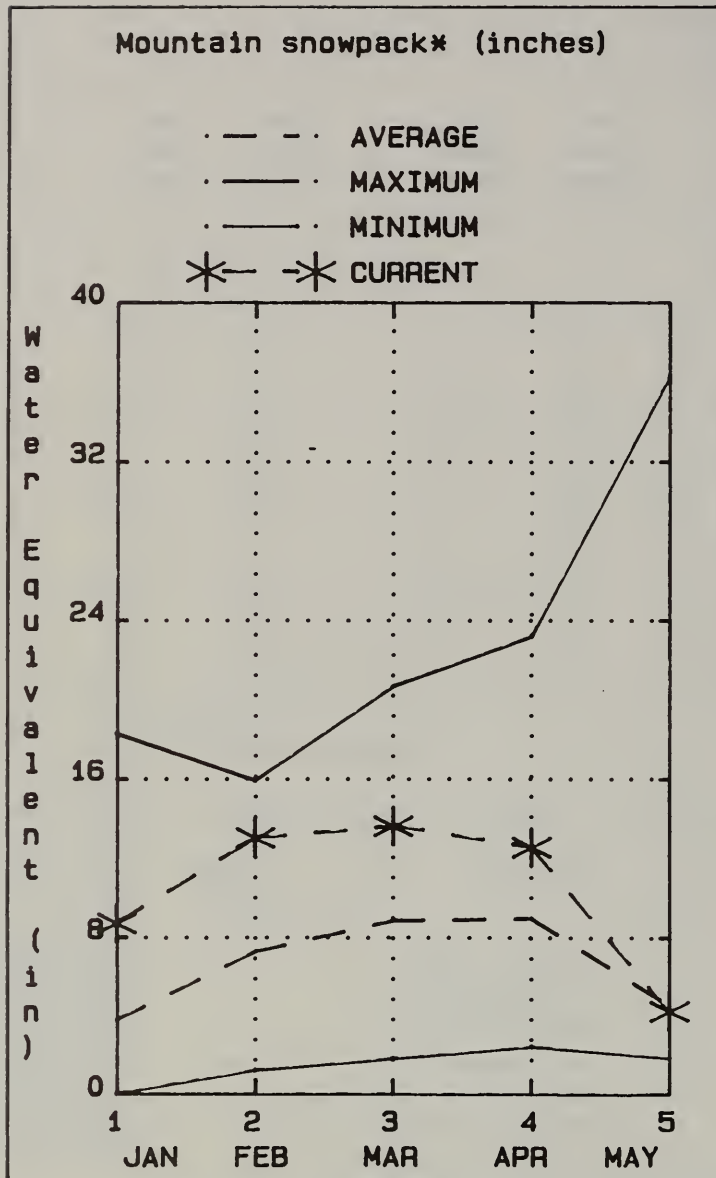
WET SUBS. and DRY SUBS. represent 130 and 70 percent subsequent precipitation events respectively.

REAS. MAX. and REAS. MIN. forecasts are for 10% and 90% exceedance levels.

(2) - Corrected for upstream diversions or changes in reservoir storage.



## LOWER HUMBOLDT RIVER BASIN



Snow water content in the Lower Humboldt River Basin decreased during April to near normal. The basin currently has 95% of the May 1 average and 262% of the water content present last year. April precipitation for the Lower Humboldt River Basin was 56% of average and 34% of last year. Precipitation since October 1, 1988 is 124% of average and 137% of last year. Reservoir storage on the last day of April was 44% of average. Total storage in Rye Patch Reservoir was 55,750 acre feet. Streamflows in the Lower Humboldt River are expected to be near normal to well below normal. The Humboldt River at Comus is expected to flow at 75% of average or 172,000 acre feet during the April-July forecast period. The Little Humboldt River near Paradise Valley is expected to flow at 105% of average or 13,100 acre feet during the April-July forecast period.

LOWER HUMBOLDT RIVER BASIN

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST	MOST	MOST	WET	DRY	REAS.	REAS.	25 YR.
	PERIOD	PROBABLE	PROBABLE	SUBS.	SUBS.	MAX.	MIN.	AVG.
		(1000AF)	(% AVG.)	(1000AF)	(1000AF)	(1000AF)	(1000AF)	(1000AF)
REESE RIVER nr Ione Nv	APR-JUL	5.3	68			7.0	2.8	7.8
ROCK CREEK nr Battle Mtn.	APR-JUL	21	95			27	14.8	22
HUMBOLDT RIVER at Comus	APR-JUL	172	75	205	133	275	67	229
L. HUMBOLDT RIVER nr Paradise Valley	APR-JUL	13.1	105			18.2	8.0	12.5
MARTIN CREEK nr Paradise Nv	APR-JUL	18.0	95	18.6	17.8	26	10.2	19.0

RESERVOIR STORAGE

(1000AF)

WATERSHED SNOWPACK ANALYSIS

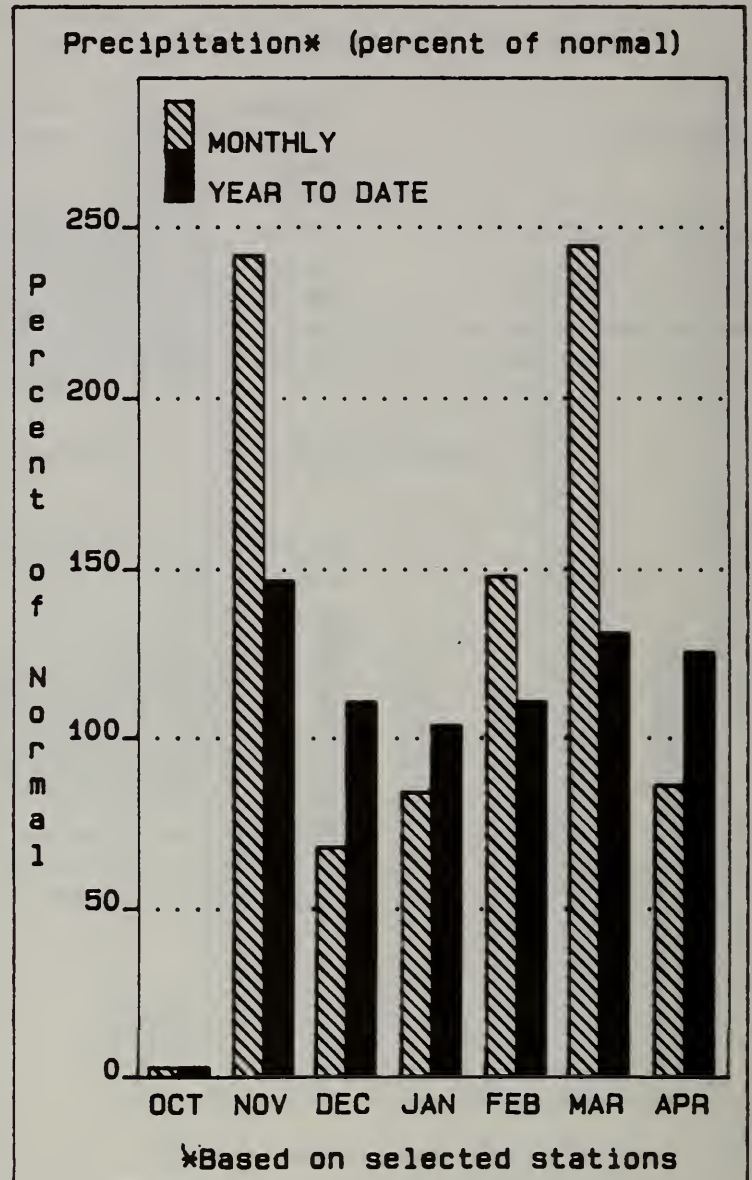
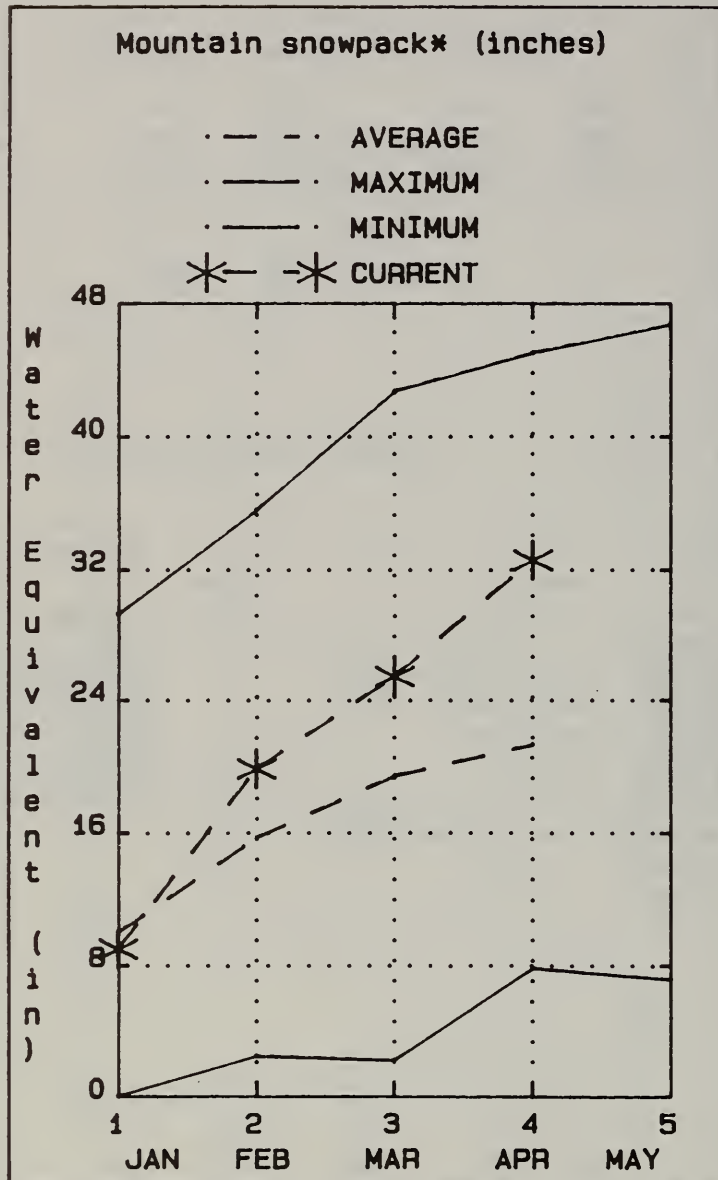
RESERVOIR	USEABLE	** USEABLE STORAGE **			WATERSHED	NO.	THIS YEAR AS % OF	
	CAPACITY	THIS	LAST			COURSES	-----	
		YEAR	YEAR	AVG.		AVG'D	LAST YR.	AVERAGE
RYE PATCH RESERVOIR	194.3	55.8	80.7	128.1	LITTLE HUMBOLDT RIVER	3	335	101
					MARTIN CREEK	3	335	101
					REESE RIVER	1	73	46
					ROCK CREEK	1	0	0

WET SUBS. and DRY SUBS. represent 130 and 70 percent subsequent precipitation events respectively.

REAS. MAX. and REAS. MIN. forecasts are for 10% and 90% exceedance levels.

(2) - Corrected for upstream diversions or changes in reservoir storage.

## CLOVER VALLEY & FRANKLIN RIVER BASIN



Snow water content in the Clover Valley & Franklin River Basin, based on SNOTEL (SNOW TELemetry) readings, remain well above average for the third month in a row. April precipitation for the Clover Valley & Franklin River Basin was 86% of average and 140% of last year. Precipitation since October 1, 1988 is 125% of average and 157% of last year. Streamflows in the Clover Valley & Franklin River Basin are expected to be near normal. The Franklin River near Arthur is expected to flow at 99% of average or 6800 acre feet during the April-July forecast period.



CLOVER VALLEY & FRANKLIN RIVER BASIN

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVG.)	WET SUBS. (1000AF)	DRY SUBS. (1000AF)	REAS. MAX. (1000AF)	REAS. MIN. (1000AF)	25 YR. AVG. (1000AF)
FRANKLIN RIVER nr Arthur	APR-JUL	6.8	99			8.9	4.2	6.9

RESERVOIR STORAGE

(1000AF)

WATERSHED SNOWPACK ANALYSIS

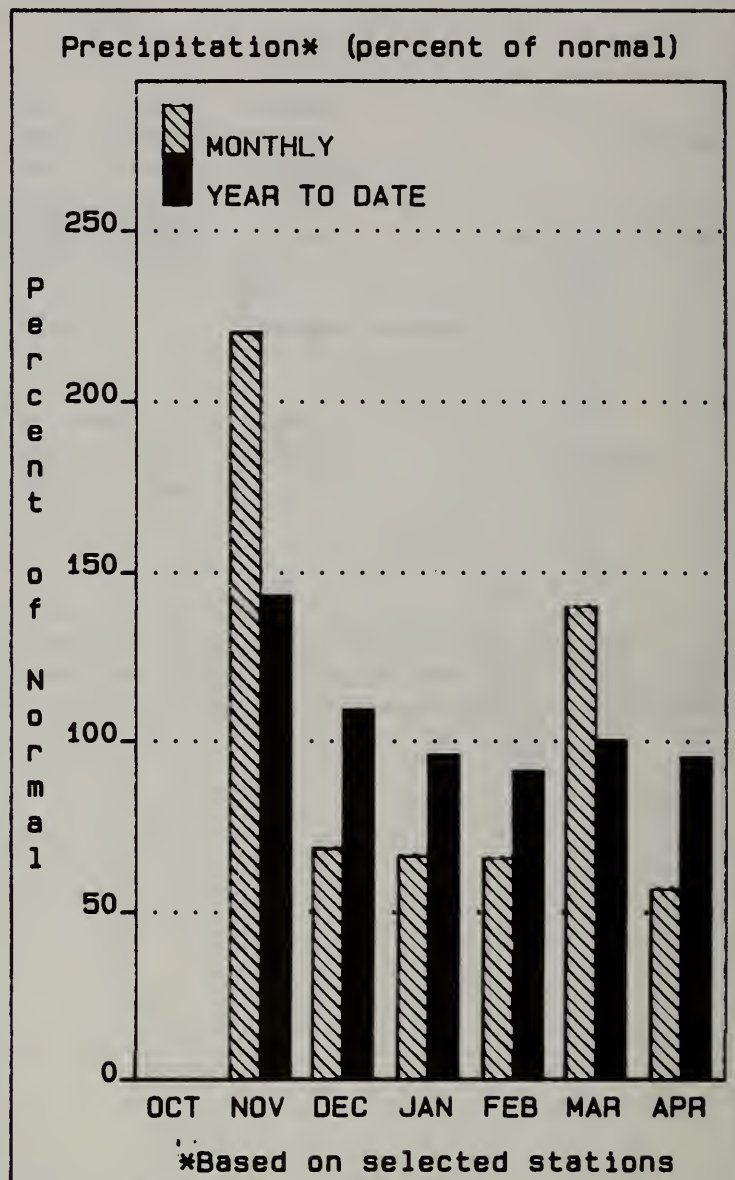
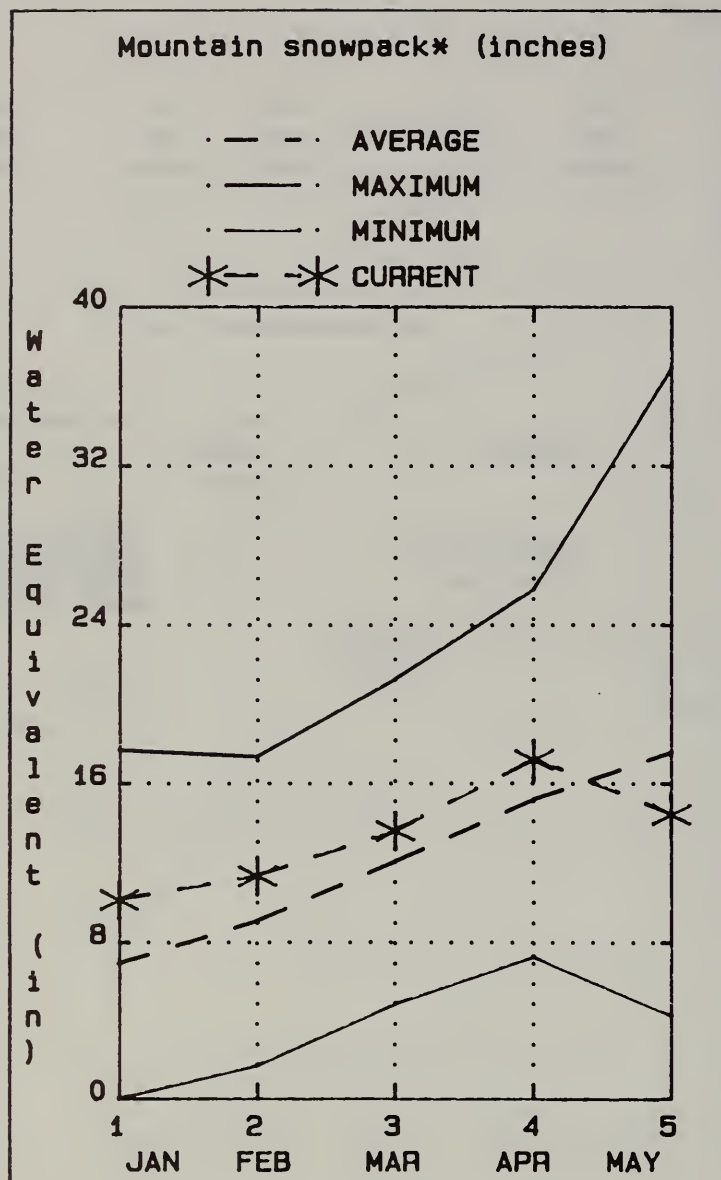
RESERVOIR	USEABLE CAPACITY	THIS YEAR	LAST YEAR	AVG.	WATERSHED	NO. COURSES AVG'D	THIS YEAR AS % OF LAST YR. AVERAGE
					FRANKLIN RIVER	0	0
					CLOVER VALLEY	0	0

WET SUBS. and DRY SUBS. represent 130 and 70 percent subsequent precipitation events respectively.

REAS. MAX. and REAS. MIN. forecasts are for 10% and 90% exceedance levels.

(2) - Corrected for upstream diversions or changes in reservoir storage.

## SNAKE RIVER BASIN



Snow water content in the Snake River Basin decreased during April to below average. The basin currently has 82% of the May 1 average and 120% of the water content present last year. April precipitation for the Snake River Basin was 57% of average and 74% of last year. Precipitation since October 1, 1988 is 95% of average and 123% of last year. Streamflows in the Snake River Basin are expected to be below average. Salmon Falls Creek near San Jacinto is expected to flow at 81% of average or 50,000 acre feet during the May-July forecast period.

SNAKE RIVER BASIN

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST	MOST	MOST	WET	DRY	REAS.	REAS.	25 YR.
		PROBABLE	PROBABLE	SUBS.	SUBS.	MAX.	MIN.	AVG.
	PERIOD	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	(1000AF)	(1000AF)	(1000AF)
SALMON FALLS CK nr San Jacinto	MAR-JUL	114	118	119	109	149	80	97
	MAY-JUL	50	81	56	45	72	28	62

RESERVOIR STORAGE		(1000AF)	WATERSHED SNOWPACK ANALYSIS			
RESERVOIR	USEABLE	** USEABLE STORAGE **		WATERSHED	NO.	THIS YEAR AS % OF
	CAPACITY	THIS	LAST		COURSES	-----
		YEAR	YEAR		AVG'D	LAST YR. AVERAGE
				SALMON FALLS CREEK	4	124 80

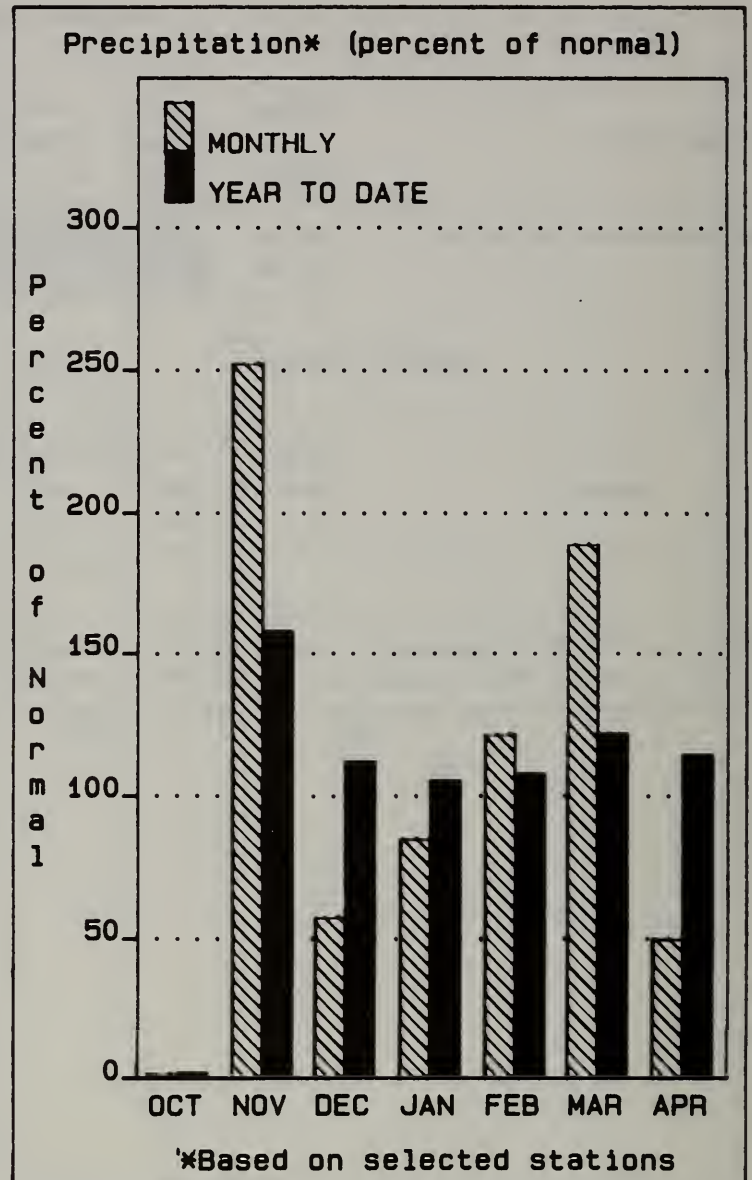
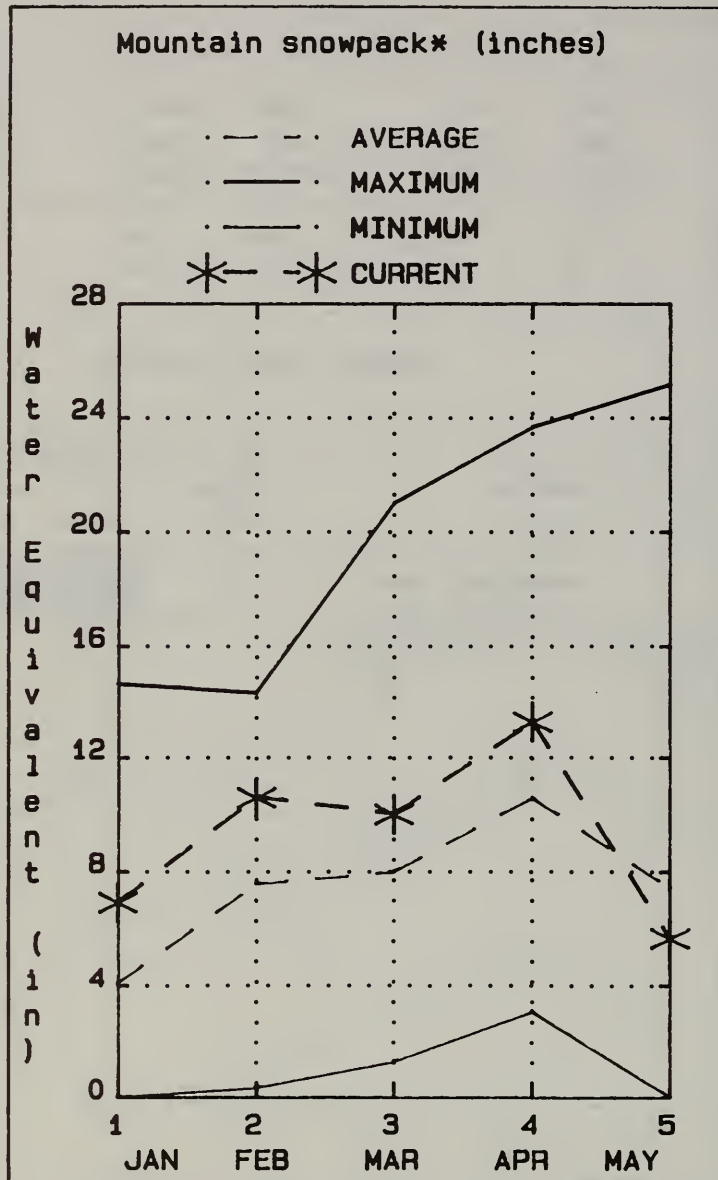
WET SUBS. and DRY SUBS. represent 130 and 70 percent subsequent precipitation events respectively.

REAS. MAX. and REAS. MIN. forecasts are for 10% and 90% exceedance levels.

(2) - Corrected for upstream diversions or changes in reservoir storage.



## OWYHEE RIVER BASIN



Snow water content in the Owyhee River Basin decreased during April to below normal. The basin currently has 76% of the May 1 average and 227% of the water content present last year. April precipitation for the Owyhee River Basin was 50% of average and 62% of last year. Precipitation since October 1, 1988 is 114% of average and 169% of last year. Reservoir storage on the last day of April was 155% of average. Total storage for Wildhorse Reservoir was 53,800 acre feet. Streamflows in the Owyhee River Basin are expected to be near normal. The Owyhee River near Owyhee is expected to flow at 110% of average or 95,000 acre feet during the April-July forecast period.

OWYHEE RIVER BASIN

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST	MOST	MOST	WET	DRY	REAS.	REAS.	25 YR.
		PROBABLE	PROBABLE	SUBS.	SUBS.	MAX.	MIN.	AVG.
	PERIOD	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	(1000AF)	(1000AF)	(1000AF)
OWYHEE nr Gold Ck (2)	MAR-JUL	40	121	41	39	50	30	33
	MAY-JUL	14.2	101	14.3	13.9	18.5	9.9	14.0
OWYHEE nr Owyhee (2)	APR-JUL	95	110	104	86	122	68	86
SF OWYHEE nr Whiterock	APR-JUL	91	110			117	65	83

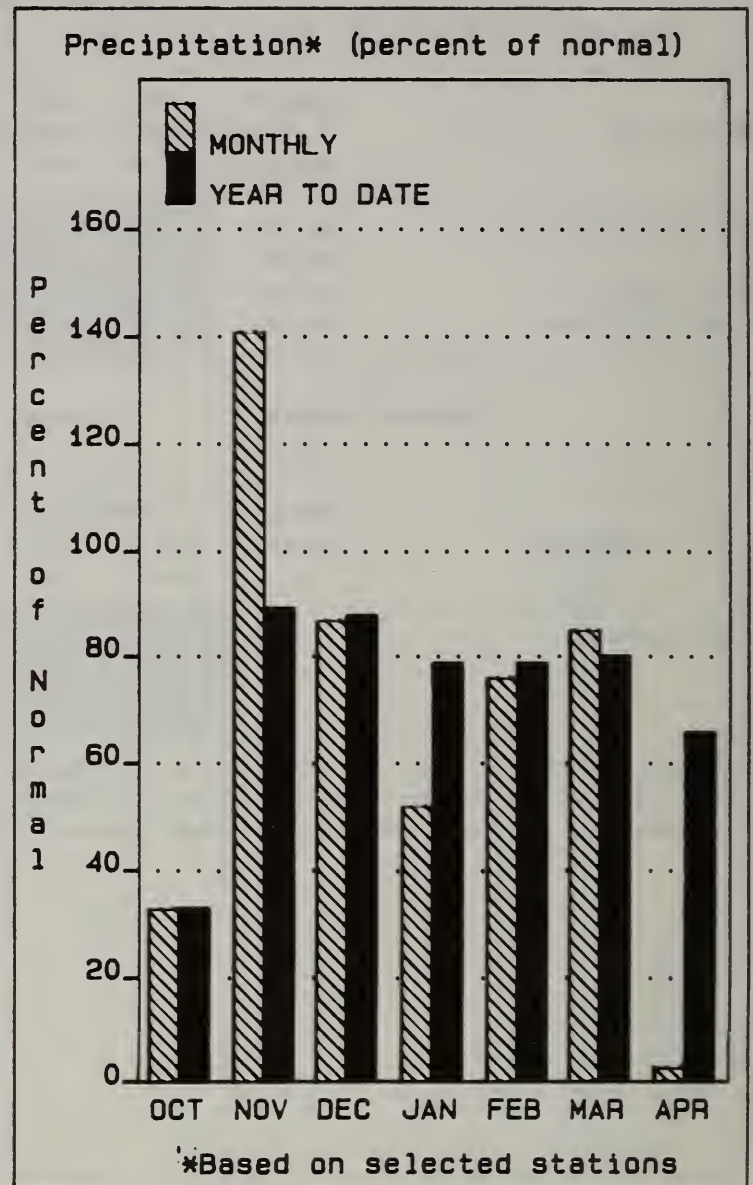
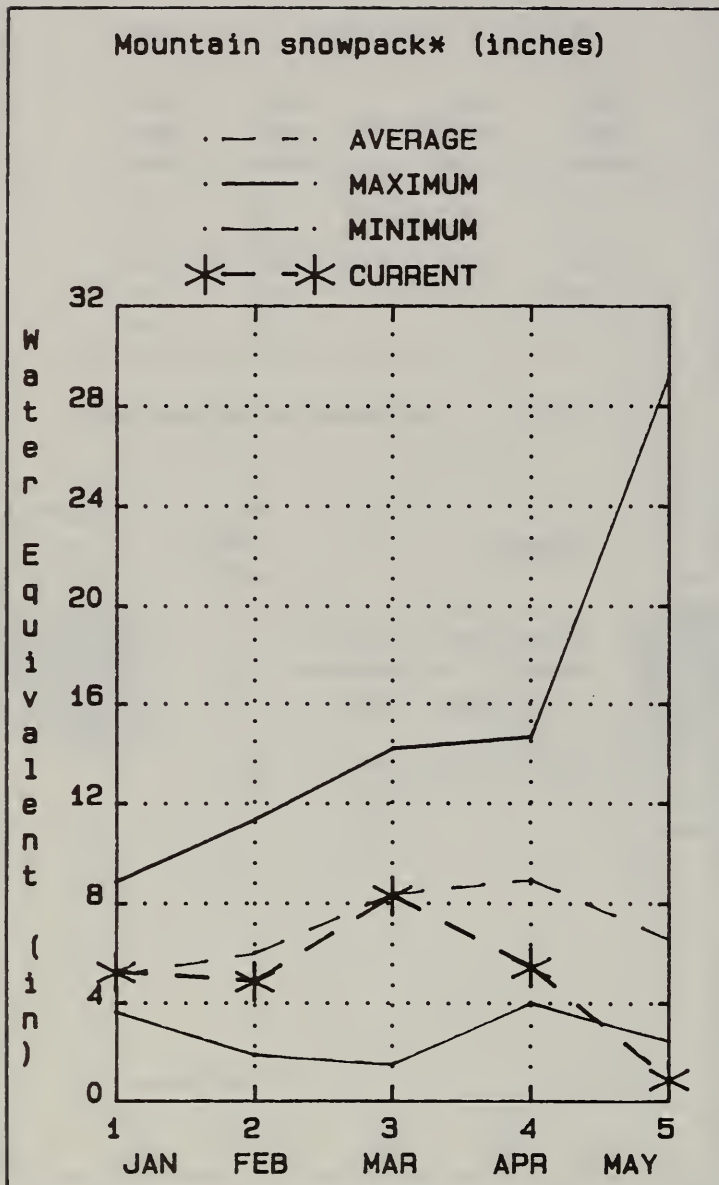
RESERVOIR STORAGE (1000AF)					WATERSHED SNOWPACK ANALYSIS			
RESERVOIR	USEABLE	** USEABLE STORAGE **			WATERSHED	NO.	THIS YEAR AS % OF	
	CAPACITY	THIS	LAST			COURSES	-----	
		YEAR	YEAR	AVG.		AVG' D	LAST YR.	AVERAGE
WILDHORSE RESERVOIR	71.5	53.8	32.4	34.7	OWYHEE RIVER nr Owyhee	4	216	68
					OWYHEE Rv. nr Gold Creek	1	0	0
					S. FORK OWYHEE RIVER	4	216	68

WET SUBS. and DRY SUBS. represent 130 and 70 percent subsequent precipitation events respectively.

REAS. MAX. and REAS. MIN. forecasts are for 10% and 90% exceedance levels.

(2) - Corrected for upstream diversions or changes in reservoir storage.

## EASTERN NEVADA BASIN



Snow water content in the Eastern Nevada Basin, based on SNOTEL (SNOW TELemetry) readings, are well below average. The basin currently has 14% of the May 1 average and 18% of the water content present last year. April precipitation for the Eastern Nevada Basin was 3% of average and 2% of last year. Precipitation since October 1, 1988 is 66% of average and 68% of last year. Streamflows in the Eastern Nevada Basin are expected to be well below average to near average. Steptoe Creek near Ely is expected to flow at 56% of average or 1800 acre feet during the April-July forecast period.



## EASTERN NEVADA

## STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVG.)	WET SUBS. (1000AF)	DRY SUBS. (1000AF)	REAS. MAX. (1000AF)	REAS. MIN. (1000AF)	25 YR. AVG. (1000AF)
KINGSTON CREEK nr Austin, Nv	APR-JUL	3.8	90			5.9	3.0	4.2
STEPTOE CREEK nr Ely	APR-JUL	1.8	56			3.0	0.9	3.2

## RESERVOIR STORAGE

(1000AF)

## WATERSHED SNOWPACK ANALYSIS

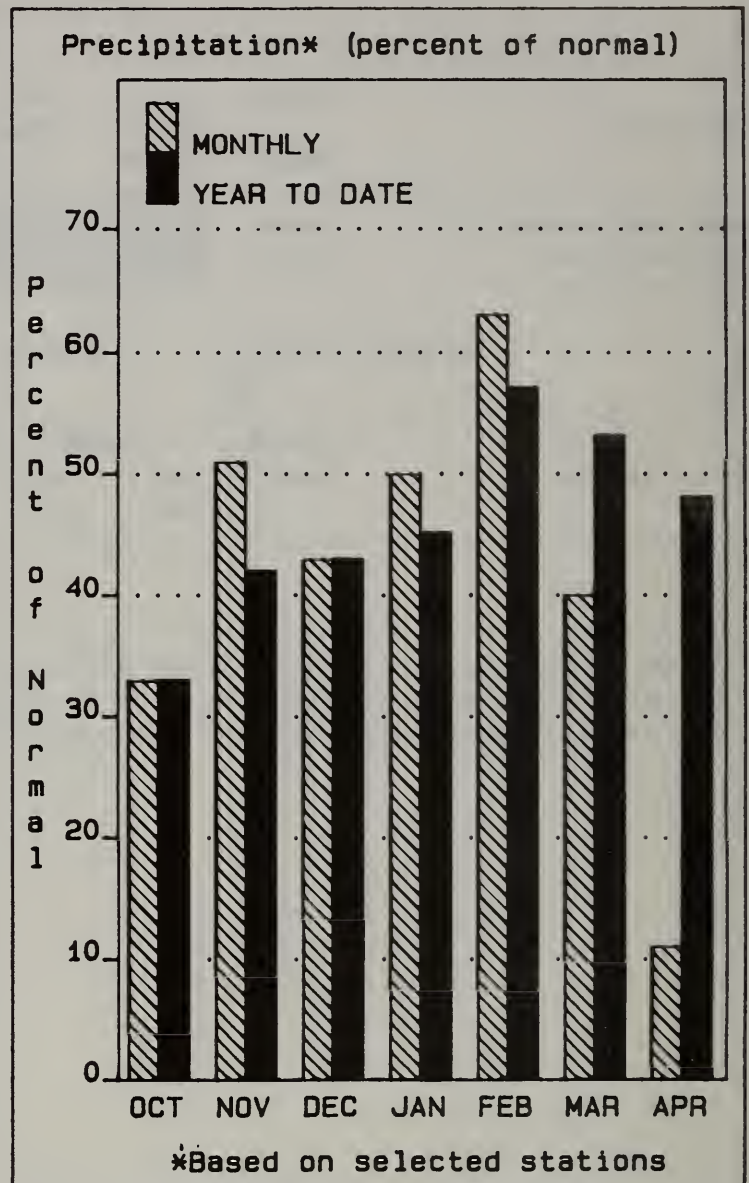
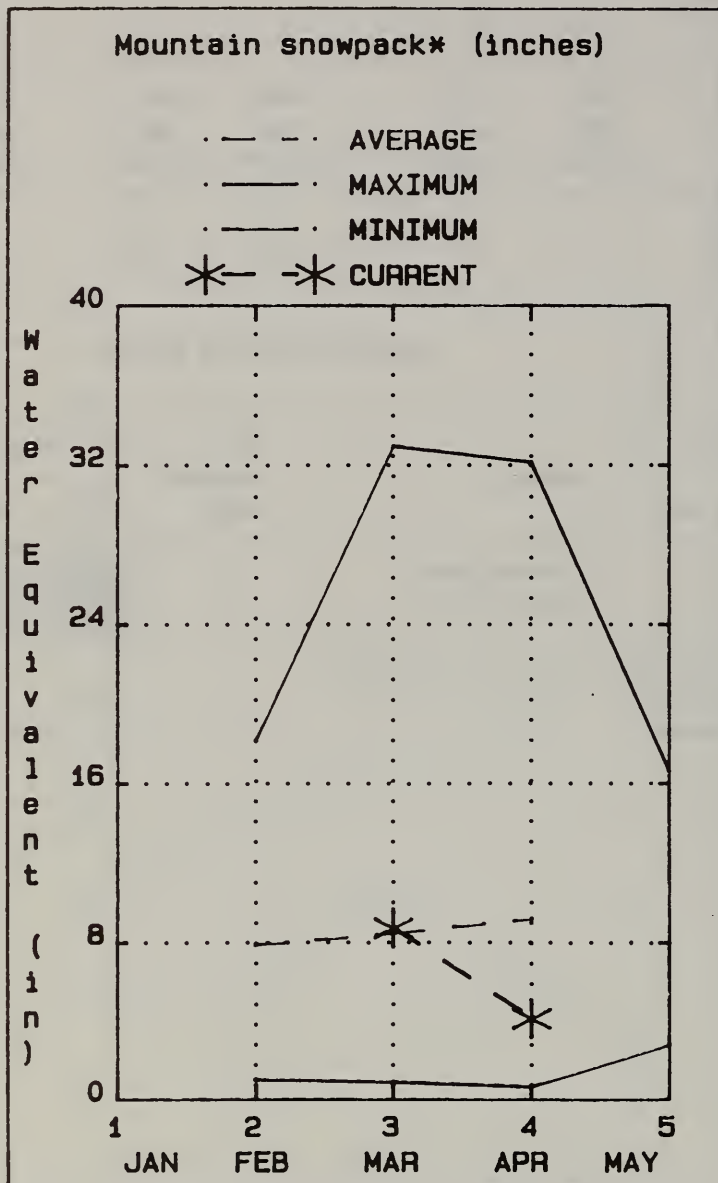
RESERVOIR	USEABLE CAPACITY	** USEABLE STORAGE **			WATERSHED	NO. COURSES AVG'D	THIS YEAR AS % OF LAST YR. AVERAGE	
		THIS YEAR	LAST YEAR	AVG.				
					KINGSTON CREEK	0	0	0
					STEPTOE VALLEY	0	0	0

WET SUBS. and DRY SUBS. represent 130 and 70 percent subsequent precipitation events respectively.

REAS. MAX. and REAS. MIN. forecasts are for 10% and 90% exceedance levels.

(2) - Corrected for upstream diversions or changes in reservoir storage.

## LOWER COLORADO RIVER BASIN



Snow courses in the Virgin River Watershed reported no snow on May 1. April precipitation in the Lower Colorado River Basin was 11% of average and 4% of last year. Precipitation since October 1, 1988 is 48% of average and 35% of last year. Reservoir storage on the last day of April was 115% of average. Total storage for Lake Mohave and Lake Mead was 24,088,200 acre feet. Streamflows in the Lower Colorado River Basin are expected to be well below average. The Colorado River inflow to Lake Powell is expected to be 4,800,000 acre feet during the April-July forecast period.

LOWER COLORADO RIVER BASIN

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST	MOST	MOST	WET	DRY	REAS.	REAS.	25 YR.
		PROBABLE	PROBABLE	SUBS.	SUBS.	MAX.	MIN.	AVG.
	PERIOD	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	(1000AF)	(1000AF)	(1000AF)
COLORADO RIVER inf to Lake Powell 2	APR-JUL	4800	59			6500	3260	8086
VIRGIN near Hurricane	MAY-JUN	10.0	23					44

RESERVOIR STORAGE (1000AF)					WATERSHED SNOWPACK ANALYSIS			
RESERVOIR	USEABLE	** USEABLE STORAGE **			WATERSHED	NO.	THIS YEAR AS % OF	
	CAPACITY	THIS	LAST			COURSES	-----	
		YEAR	YEAR	AVG.		AVG'D	LAST YR.	AVERAGE
LAKE MOHAVE	1810.0	1554.2	1774.2	1675.0	VIRGIN Rv. at Littlefield	4	0	0
LAKE MEAD	26159.0	22534.0	24144.0	19278.0	VIRGIN Rv. at Hurricane,	4	0	0

WET SUBS. and DRY SUBS. represent 130 and 70 percent subsequent precipitation events respectively.

REAS. MAX. and REAS. MIN. forecasts are for 10% and 90% exceedance levels.

(2) - Corrected for upstream diversions or changes in reservoir storage.



# SNOW DATA MEASUREMENTS

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-85
-----						
LAKE TAHOE BASIN						
ECHO PEAK (CA)	7800	5/01/89	---	20.0E	2.4	36.7
ECHO SUMMIT (CA)	7450	4/28/89	43	20.1	3.0	27.8
FALLEN LEAF (CA)	6300	5/01/89	0	.0E	.0	.0
FREEL BENCH (CA)	7300	5/01/89	0	.0E	.0	5.0
HAGANS MEADOW (CA)	8000	5/01/89	0	.0E	.0	11.8
HEAVENLY VALLEY (CA)	8850	5/01/89	---	17.8E	.0	27.1
MARLETTE LAKE	8000	5/01/89	---	11.8E	.0	20.3
RUBICON #2 (CA)	7500	5/01/89	---	16.5E	1.7	31.2
TRUCKEE, UPPER (CA)	6400	5/01/89	0	.0E	.0	2.2
WARD CREEK #2 (CA)	7000	5/01/89	---	24.6E	1.2	37.4
WARD CREEK #3 (CA)	6750	5/01/89	---	24.3E	5.4	35.3
TRUCKEE RIVER BASIN						
CASTLE CREEK (CA)	7400	5/02/89	93	46.1	13.3	50.9
DONNER SUMMIT (CA)	6900	4/28/89	53	25.0	1.8	34.1
FORDYCE LAKE (CA)	6500	4/28/89	50	25.0	2.4	38.6
FURNACE FLAT (CA)	6700	4/28/89	77	39.7	11.8	47.9
INDEPENDENCE CAMP CA	7000	5/01/89	---	.0E	.0	15.7
INDEPENDENCE CREEK	6500	5/01/89	0	.0E	.0	6.3
INDEPENDENCE LAKE CA	8450	5/01/89	---	46.7E	17.4	45.3
MT. ROSE	9000	5/01/89	---	26.5E	10.8	34.2
MT. ROSE SKI AREA	9000	5/01/89	---	35.5E	13.9	43.3
SQUAW VALLEY #2 (CA)	7500	5/01/89	---	29.3E	9.1	50.9
SQUAW VALLEY G.C., CA	8200	5/01/89	---	31.1S	9.5	55.6
WEBBER LAKE (CA)	7000	4/28/89	48	21.5	--	--
WEBBER PEAK (CA)	8000	4/28/89	91	41.8	--	--
CARSON RIVER BASIN						
BLUE LAKES (CA)	8000	4/27/89	53	22.8	13.2	35.2
CARSON PASS, UP (CA)	8600	4/27/89	61	26.0	.0	34.1
EBBETTS PASS #2 (CA)	8700	5/01/89	---	22.9E	--	38.5
POISON FLAT #2 (CA)	7900	5/01/89	0	.0E	.6	12.2
SPRATT CREEK (CA)	6080	5/01/89	0	.0E	.0	.0
WET MEADOWS #2 (CA)	8100	5/01/89	---	17.0E	8.8	41.2

# SNOW DATA MEASUREMENTS (CONT)

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-85
-----						
WALKER RIVER BASIN						
LEAVITT MEADOWS (CA)	7200	5/01/89	---	.0E	.0	.0
LOBDELL LAKE (CA)	9200	5/01/89	0	.0E	1.7	16.6
VIRGINIA LAKES RIDGE	9200	5/01/89	---	8.6E	5.2	18.4
SNAKE RIVER BASIN						
BEAR CREEK	7800	5/01/89	---	18.9E	11.8	21.5
GOAT CREEK	8800	4/29/89	51	19.5	16.6	20.9
HUMMINGBIRD SPRINGS	8950	4/29/89	---	24.0E	21.6	27.7
POLE CREEK R.S.	8330	4/29/89	50	20.0	18.8	23.4
SEVENTYSIX CREEK	7100	5/01/89	0	.0E	.0	7.6
OWYHEE RIVER BASIN						
BIG BEND	6700	5/01/89	0	.0E	.0	2.8
JACK CREEK, UPPER	7250	5/01/89	---	6.6E	2.6	5.2
JACKS PEAK	8420	5/01/89	---	18.5E	9.0	28.3
LAUREL DRAW	6700	5/01/89	0	.0E	--	1.3
TAYLOR CANYON	6200	5/01/89	0	.0E	.0	.7
UPPER HUMBOLDT RIVER BASIN						
CORRAL CANYON	8500	5/01/89	---	8.2E	9.0	14.7
DORSEY BASIN	8100	5/01/89	0	.0E	.0	12.4
GREEN MOUNTAIN	8000	5/01/89	---	.0E	1.5	9.9
LAMOILLE #3	7700	5/01/89	0	.0E	--	7.8
LOWER HUMBOLDT RIVER BASIN						
BIG CREEK SUMMIT	8700	5/01/89	---	7.3E	10.0	15.8
BUCKSKIN, LOWER	6700	5/01/89	0	.0E	.0	.0
GRANITE PEAK	7800	5/01/89	---	19.1E	5.7	18.9



# MONTHLY & SEASONAL WEATHER OUTLOOK

U.S. DEPARTMENT OF COMMERCE • National Oceanic and Atmospheric Administration • National Weather Service

FOR MAY 1989



TEMPERATURE PROBABILITIES



PRECIPITATION PROBABILITIES



# 90-DAY OUTLOOK FOR MAY THROUGH JULY 1989



TEMPERATURE PROBABILITIES



PRECIPITATION PROBABILITIES

## OBSERVED FOR MID-MARCH TO MID-APRIL 1989

BASED ON PRELIMINARY REPORTS



J. Ashby  
H. Klieforth

SNOW SURVEY DRI-ASC

1 May 1989

DATE APR.	SITE	ELEVATION FEET	LOCATION	SNOW IN.	WATER IN.	DENSITY	% OF NORMAL
30	JC	5800	Clear Creek	0	0		
30	SS	7260	Spooner Summit	0	0		
30	FT	5250	Cliff Ranch, Franktown	0	0		
30	LV	6540	Little Valley	0	0		
30	DC	5160	Davis Creek	0	0		
30	8	4590	Jct. 395 & NV 27	0	0		
30	6	5110	Lancer	0	0		
30	4	5670	Whites Creek	0	0		
30	R	5700	Evergreen Hills Rd.	0	0		
30	2	6000	Jones Creek	0	0		
30	0	6400	RNR Forestry Site	0	0		
30	N	7060	Reindeer Lodge	0	0		
30	M	7440	Galena Creek	0	0		
30	K	7620	Sky Tavern	0	0		
30	G	8280	Mt. Rose Resort	26	14.0	.54	49
30	D	8820	Tamarack Lake	53	25.8	.49	78
30	A	8540	Tahoe Meadows	61	31.2	.51	76
30	U	8000	Below Incline Lake	0	0		
30	V	7300	Apollo Way	0	0		
30	Z	6235	Third & Incline Creeks	0	0		
30	BS	7200	Brockway Summit	0	0		
30	NS	6320	North Star Fire Dept.	0	0		
30	TRK	5900	Truckee - Tahoe Airport	0	0		
30	CK	6540	Cabin Creek	0	0		
30	SV	6240	Squaw Valley Fire Dept.	0	0		
30	TC	6200	Thunder Cliff	0	0		
30	TP	6240	Tahoe City	0	0		
30	BF	6200	Bennett Flat	0	0		
30	AC	6960	Alder Creek	46	26.2	.57	
30	HM	5850	Hobart Mills	0	0		
30	SA	6340	Sagehen Creek	0	0		
30	LT	6410	Hennes Pass Jct.	0	0		
30	FL	6200	Fuller Lake	0	0		
30	JL	6000	Joy Lake	0	0		



# FOR MORE INFORMATION, CONTACT YOUR LOCAL SOIL CONSERVATION SERVICE OFFICE

## BATTLE MOUNTAIN FIELD OFFICE

-----  
Rafael J. Guerrero  
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Battle Mountain, NV 89820  
(702) 635-2650

## ELKO FIELD OFFICE

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Leland R. Campsey  
2002 Idaho  
Elko, NV 89801  
(702) 738-8431

## EUREKA FIELD OFFICE

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Shelley S. Tucker  
Sentinel Building  
P.O. Box 323  
Eureka, NV 89316  
(702) 237-5251

## LAS VEGAS FIELD OFFICE

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James R. Ayres  
1140 Almond Tree Lane  
Suite 310  
Las Vegas, NV 89104  
(702) 388-6426 or 388-6427

## MINDEN FIELD OFFICE

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Steve K. Walker  
1694 County Road  
P.O. Box 517  
Minden, NV 89423  
(702) 782-3661 (Carson Valley)  
(702) 883-2623 (Carson City/Reno)

## CALIENTE FIELD OFFICE

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Richard A. Orr  
360 Lincoln Street  
P.O. Box 8  
Caliente, NV 89008  
(702) 726-3101

## ELY FIELD OFFICE

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A. Wayne Imgard  
1190 Avenue E  
Ely, NV 89301  
(702) 289-4065

## FALLON FIELD OFFICE

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Peggy A. Hughes  
111 Sheckler Road  
Fallon, NV 89406  
(702) 423-5124

## LOVELOCK FIELD OFFICE

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Melvin D. Cheney  
City of Lovelock Building  
400 14th Street  
P.O. Box 860  
Lovelock, NV 89419  
(702) 273-2134

## RENO FIELD OFFICE

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John R. Capurro  
1281 Terminal Way  
Suite 204  
Reno, NV 89502  
(702) 784-5408



FOR MORE INFORMATION, CONTACT YOUR LOCAL  
SOIL CONSERVATION SERVICE OFFICE

TONOPAH FIELD OFFICE  
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Paul T. Ragland  
P.O. Box 1147  
Tonopah, NV 89049  
(702) 482-5506

YERINGTON FIELD OFFICE  
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William G. Duckworth  
215 West Bridge Street  
Suite 11-A  
Yerington, NV 89447  
(702) 463-2665

SOUTH LAKE TAHOE FIELD OFFICE  
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Richard C. Pyle  
870 Highway 89  
Suite 209  
P.O. Box 10529  
South Lake Tahoe, CA 95731  
(916) 541-1496

WINNEMUCCA FIELD OFFICE  
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Walter T. Lamb  
1200 Winnemucca Blvd., East  
Winnemucca, NV 89445  
(702) 623-5025

CEDARVILLE FIELD OFFICE  
-----

Thomas S. Hill  
P.O. Box 777  
USDA Building  
Wallace Street  
Cedarville, CA 96104  
(916) 279-6110







# The Following Organizations Cooperate With The Soil Conservation Service In Snow Survey Work

## STATE

California Cooperative Snow Surveys  
California Department of Parks and Recreation  
California Department of Water Resources  
Colorado River Commission of Nevada  
Idaho Cooperative Snow Surveys  
Nevada Association of Conservation Districts  
Nevada Department of Conservation & Natural Resources  
    Division of Water Resources  
    Nevada State Forester  
    Division of Conservation Districts  
Oregon Cooperative Snow Surveys  
University of Nevada, Desert Research Institute  
Utah Cooperative Snow Surveys

## FEDERAL

Bureau of Reclamation  
Forest Service  
Geological Survey  
Soil Conservation Service  
U.S. District Court - Federal Water Master  
MOAA, National Weather Service

## PRIVATE

Nevada Irrigation District  
Owyhee Project North Board of Control  
Owyhee Project South Board of Control  
Pacific Gas and Electric Company  
Pershing County Water Conservation District  
Sierra Pacific Power Company  
Truckee - Carson Irrigation District  
Walker River Irrigation District  
Washoe County Water Conservancy District  
Las Vegas Valley Water District

Other organizations and individuals furnish valuable information for the snow survey reports. Their cooperation is gratefully acknowledged.

UNITED STATES DEPARTMENT OF AGRICULTURE  
SOIL CONSERVATION SERVICE  
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RENO, NEVADA 89502

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